

DUALISM IN THE RHODESIAN COLONIAL ECONOMY

1981

Daniel Boda Ndlela

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PREFACE

The present study is a result of the interest that I have shared with many of my country men and women in the economic and social problems of Zimbabwe. (In a historical context, the territory is variously described as 'Southern Rhodesia', 'Rhodesia', 'Zimbabwe Rhodesia', or 'Zimbabwe', but I have chosen 'Rhodesia' in my title to emphasize the historical roots of the dualistic structure of the economy.)

During my work at the Department of Economics in Lund, my supervisor, Professor Bo Södersten, has not only followed my work with interest, providing helpful suggestions, but has also arranged financial support and valuable seminars, which I gratefully acknowledge. Mats Lundahl and Professor Björn Thalberg showed great generosity and devoted a lot of their time on reading the whole work with unsparing scrutiny and suggested many improvements both in form and content. Alia Ahmad, Göte Hansson, Hans Hedlund, Stefan Hedlund, Abdelmajid Hergli, Rogelio Imable, Noman Kanafani, Knut Ødegaard, Lars Pira, László Somogyi, Claudio Vedovato and Rosemary Vergas, all read earlier drafts of varying quality and succeeded in improving them with the aid of many valuable comments.

Special thanks go to the participants of the Economic and Social Survey of Zimbabwe, held under the auspices of UNDP/UNCTAD - Geneva, during the Spring of 1979. Professor H.M.A. Onitiri, the Chief Economist for the Zimbabwe Project and other members of the staff, including Professor Odd Gulbrandsen, Kombo J. Moyana, and Martin Ngwenya saw an earlier draft and contributed with valuable comments. The study also benefited from the exchange of ideas with other participants of the Zimbabwe Project. Stanely Mahlahla, V. Nyathi-Mdluli, Mudziviri Nziramasanga, Leonard Tumba and Chris Ushewokunze, among others, all contributed to an atmosphere of useful discussion on the various aspects of the Zimbabwean economy.

I owe special thanks to Peter Stenkula for providing office space and other logistic services at the Department of Economics at the University of Lund, to Roger Riddell of the Catholic Institute for International Relations, who kindly let me have access to his materials on the agri-

cultural economy of Rhodesia, to Johnson M. Ndlovu of the Commonwealth Secretariat, who was very helpful in providing me with data on the Rhodesian colonial economy, and to Patrick Ncube, head of the Department of Economics and Business Studies in the University of Zambia, who arranged pleasant facilities for research and provided other services during my visit to Zambia.

I also wish to express my special gratitude to Alan Harkess who undertook the delicate task of removing errors in grammar and syntax, to Carin Hedlund who typed the manuscript and to Agnetta Kretz who has drawn all the figures.

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As an old saying goes 'Correction does much, but encouragement does more.' I owe a great deal to my wife Thando for her understanding and encouragement in difficult moments during the whole course of this work.

Lund, April, 1981

Daniel B. Ndlela

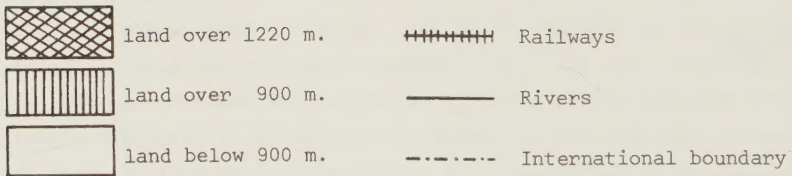
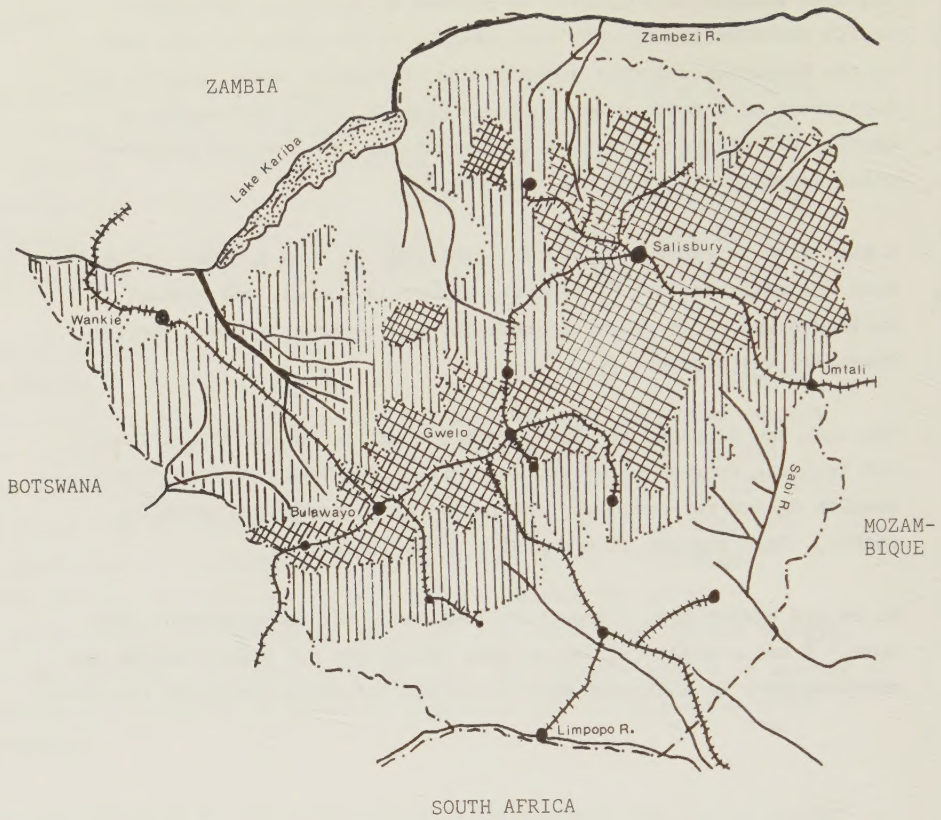


Figure 1.1 A Relief and Drainage Map of Zimbabwe

1. INTRODUCTION AND SUMMARY

Zimbabwe's land area is approximately 390,000 square kilometres.¹ It is bordered by Mozambique to the east, South Africa to the south, Botswana and Namibia (the Caprivi Strip) to the west, and Zambia to the north and north-west. Zimbabwe's distinctive physical characteristic is the high plateau, the 'highveld' that runs from south-west to north-east through the centre of the country; it is about 650 kilometres long and 80 kilometres wide and lies mostly on an altitude of between 1,200 and 1,500 metres above sea level. As can be seen on the map in Figure 1.1, on the north-western side the plateau gradually slopes down to the Zambezi river which forms the border with Zambia, and on the south-western side to the Limpopo river on the border with South Africa. Areas on both sides of the plateau lying at an altitude between 600 and 1,200 metres are called the 'middleveld', and the lowest part at an altitude below 600 metres, the 'lowveld' which consists of the Zambezi Valley, the Limpopo Valley and the Sabi Basin.

The climate corresponds to the altitude pattern with a temperate climate in the high plateau and middle-veld and more extreme temperature variations in the lowveld. The country's natural regions strongly influence the pattern of agricultural cropping. As will be seen, land distribution under the colonial rule also followed the landscape and the climatic variations as well as the natural resource endowment patterns. Thus, the plateau became the centre of European settlement because of its good climate, rainfall, vegetation and proximity to most of the commercial mineral deposits. On the other hand, many African settlements were moved from the high- and middle-veld areas to the generally arid lowveld, where both agricultural cropping and livestock farming are hazardous for lack of rainfall and vegetation.

At the latest population census, held in 1969, the total population was 5.13 million, made up of 4.88 million Africans (95 per cent of the total), 230,000 Europeans (4.5 per cent, 15,000 Coloureds² (0.3 per cent), and 10,500 Asians (0.2 per cent). The growth rate of the African population has been estimated at 3.6 per cent, one of the highest in the world³, and that

of Europeans at 0.7 per cent. At the end of 1977, the total population was estimated at 6.86 million (6.56 million were Africans, 263,000 were Europeans, 10,300 Asians, and 23,000 Coloureds).

The Pre-Colonial Economy

Most of the characteristics of the contemporary social and economic life in Zimbabwe cannot be adequately appreciated without some knowledge of the society that existed before the advent of colonialism. It may therefore be a good idea to review briefly the development of the 'original' traditional economy before the colonization of the country.

A great deal of research, particularly in recent years, enables us to reconstruct the main features of the social and economic life in pre-colonial Zimbabwe.⁴ We will concentrate on how the socio-economic system worked. Within its geographical boundaries, pre-colonial Zimbabwe was a comparatively closed system with its own internal dynamics. The bulk of people were engaged in the production for subsistence (in agricultural and pastoral activities based on communal ownership of land), and production for exchange. Some long distance trade via the East African coast to destinations as far apart as China, India, and Portugal existed.⁵ In this sense, pre-colonial Zimbabwe was already connected with the world economy through the exchange of goods.

Gold Trade

The most important good entering international trade produced in Zimbabwe was gold. Gold reef mining that had started by the twelfth century, continued and developed steadily up to the nineteenth century.⁶ During a large part of this period, gold constituted the most important export product though it was gradually overtaken by ivory. (There were some other export products as well, such as copper.)⁷ Though gold mining was restricted to those areas where the ore existed, and though it was also limited by the state of technical progress, the Zimbabweans had made remarkable achievements in the field of mining before colonization during the end of the nineteenth century. This is confirmed by David Beach:

All work was carried out by Shona village communities, which mined, washed and milled gold and reduced it to a condition suitable for export; thus by the 1840s in the south-west and at least the 1890s elsewhere, they had worked out very nearly all payable reef gold, though it was possible to wash for gold in certain areas after this.⁸

The world is now familiar with the famous Zimbabwe ruins, and other great stone constructions well spread throughout the country. The Zimbabwe ruins was the capital of Zimbabwe and the centre of gold trading that goes back to the thirteenth and fourteenth centuries. The state of Zimbabwe had come into being at some time around 1100.⁹ 'The evidence for this comes from a sequence of building and changes in the local pottery tradition allied to an increase in imported goods, all of which made up the most spectacular aspect of the Zimbabwe state.'¹⁰ The rulers of the Zimbabwe state enhanced their power by controlling the trade routes that passed through their territory between the south-western gold fields and the coast,¹¹ so that between 1300 and 1450, Zimbabwe had become prosperous. A strong ruler in Zimbabwe could impose tribute as well as tariffs within a defined geographical area. Thus it could be said that the rise of Zimbabwe as a state was directly linked to the development of trade.¹² Estimates put the amount of gold exported within the range of 25,571 to 53,125 ounces a year for the sixteenth and seventeenth centuries.¹³

Much of the gold was traded in return for such goods as beads and cloth. During later periods, notably the nineteenth century, guns and ammunition had become important imports for the defence of the kingdoms. But during the earlier period, goods for the rulers and upper classes played as important a role as imports. Beach has, thus, reported:

Much of the imported cloth in the sixteenth and seventeenth century was obviously thin, showy stuff of silk or fine cotton, much decorated and therefore prestige material for the upper classes in Shona society.¹⁴

The bulk of the people also traded in gold and ivory in return for beads and cloth, which constituted a medium of further exchange for grain or cattle with the neighbours.¹⁵ The cloth and beads were traded in the regional market in exchange for essential consumption items such as food in times of famine.

Agricultural and Grazing Activities

Agriculture and grazing activities were much more important than international trade.¹⁶ The method of cultivation consisted of a shifting system of cultivation or a land rotation system. (This was probably the result of accumulated knowledge about the conditions of soil fertility and nutrients so that the 'traditional' cultivators had learned the methods of restoring soil fertility through reverting land to fallow.) Indeed the techniques of deep ploughing and the shift from a 'land rotation system' to a continuous system of cultivation emphasizing crop rotation rather than fallow, had disastrous effects on soils lacking chemical properties to sustain continuous cultivation. The new techniques produced inferior yields to those of the African peasants who still had access to shifting cultivation until well after the Second World War 'when the agricultural revolution of manufactured fertilizers, herbicides and pesticides, of efficient motorized machinery and crop strains, finally gave a decisive advantage to large-scale capital intensive production.'¹⁷

Thus, up to the end of the nineteenth century (on the eve of colonization), the most important economic activities and the one which affected the lives of most of the people were agricultural and pastoral farming. Goats were the main livestock for the early Shona people 'and even in the nineteenth century there were usually at least twice as many goats as cattle in Shona communities.'¹⁸

However, the Ndebele who settled in Zimbabwe in the 1840s, kept relatively large herds of cattle. But crop cultivation also formed the basis of the Ndebele livelihood as their settlements were characterized by extensive open fields where they grew a large variety of crops - Indian corn, beans, melons, pumpkins, sweet reed, millet, potatoes, groundnuts and peas.¹⁹ The reasons for keeping cattle were both social and economic. Ownership of cattle enhanced a man's prestige since religious rituals symbolised the dominance of the cattle owners. Although cattle could be affected by a prolonged and severe drought, they could also be the obvious route of escape from the uncertainty of the agricultural crop in the event of a crop failure.²⁰ Livestock lived longer than grain, and could reproduce

themselves. This is at least true in the short run, i.e. when drought spells only took one season at a time. In these circumstances, goats and cattle could be traded with neighbours who had not suffered so badly in return for grain.

Under the colonial era, cattle still represented one of the important forms of productive investment, because there existed mechanisms of transformation of current surpluses into cattle. This was actually the case during the early years of colonization when the social networks linking production activities within and among African households were still more closely connected than those linking the latter to the emerging capitalist economy. In a recent article on Changes in Production Processes in the Rhodesian case, Giovanni Arrighi stresses the autonomous nature of the African production structure up to 1903-04 when the latter began to be eroded by the impact of colonialism:

... no major changes were required in the social structure from which the Africans "raided" the money economy, or in the techniques embedded in that structure. New consumption items remained discretionary, and the conditions of supply of African produce and labour power by and large determined, much more than they were determined by the conditions of production and exchange in the capitalist enclaves.²¹

Zimbabweans also pursued handicraft production with considerable effort and great ingenuity. Rural craft production was often part of a village integrated system. For example, the iron working by the Njanja people was organized as an integrated village factory in which production was stepped up by bringing together many forges in one supra-village factory and training of many apprentices from other places in return for a supply of labour and, often, a daughter.²² The Njanja traded iron hoes with the neighbouring people in return for cattle, goats, salt and ivory. Other handicraft industries included tobacco processing and salt manufacturing.²³ Tobacco production and trading was buoyant right up to the early years of colonial rule. For instance in 1898, the Native Commissioner of the Bulawayo district reported the presence of Nyoka hawkers selling tobacco. (The best processed and manufactured tobacco came from the Shangwe people of the Nyoka country - in the Mafungabusi district or Kwa-Nyoka.)²⁴ By 1899, European traders were buying it to resell in the mines. In 1915, i.e. during

the third decade of colonization, 'one European trader alone had to fill a contract to supply 17,000 pounds, which he was able to do with no difficulty.'²⁵ But, as will be shown below, the reports about the agricultural prosperity of many Africans in Zimbabwe during the nineteenth century²⁶ and the era of peasant prosperity during the early years of colonization were replaced by reports of sub-subsistence rural dwellers, manifestly unable to support themselves and dependent for survival upon wages earned in the economy's modern sector.

Colonization: Characteristics of the Colonial Economy

The colony of Southern Rhodesia (as it was later called) was inaugurated with the hoisting of the British flag at Harare (Salisbury) on September 12, 1890. The colonizing power was the British South Africa Company (BSA Company), which subsequently ruled the colony for 30 years before self-government was granted to the white settlers by the British government. A British Royal Charter that conferred power to the BSA Company provided for administrative, legislative and judicial powers.²⁷ But the Chartered Company (as it was alternatively called) was essentially a representative of foreign capital originating in Britain and South Africa (and to a lesser extent Germany).

The motive for colonization was the search for gold. Gold had been discovered in the neighbouring South Africa, and the settlers hoped to find more deposits further north. The results were disappointing. There was no gold anywhere in Zimbabwe to be compared with that of the Witwatersrand.²⁸ Only small quantities of gold were found on small-scale diggings.

The frustration caused by the failure to find gold turned the BSA Company towards the conquest of the Ndebele kingdom in the hope that perhaps mineral deposits there would be better. Its fertile highlands and well-stocked highveld provided an added inducement.²⁹ After the conquest of the Ndebele in 1893, almost all the Ndebele land, including the whole of their most valued region - the highveld - immediately ceased to be African patrimony and passed into the private estates of individual settlers and companies. In short, the Africans' most valuable asset - land - was transformed into

alien property, although in some areas Africans did not immediately become aware of this far-reaching fundamental change, which was to have such a pervasive influence on their future well-being.

In 1894, the first two African reserves were established in Matebeleland (the area of the Ndebele) for the use of the Ndebele, whose lands in the highveld had been alienated.³⁰ In 1896, all reserves in Mashonaland were already marked, so that by 1902, African reserves totalled 20 million acres (21% of the total land area) throughout the country. As will be seen later in the present study, land alienation by the white minority was intensified throughout the colonial period and formed the basis of the dual economic structure which is characteristic of the contemporary Zimbabwean economy.

The abrupt establishment of colonial order brought about a transformation to a markedly different economic structure. Shortage of (unskilled) labour in the early years had forced the Company and settlers to resort to forced labour.

The relative shortage of adult males in their prime disrupted the traditional village economy and village life in general. It is often correctly stated that the imposition of the capitalist process of development steadily restructured and disrupted the traditional African societies which eventually led to the emergence of 'unlimited' labour supply in the economy.³¹ In the Zimbabwean experience, the disruption of the economic life of the African people was first and foremost ushered in by the land alienation policies of the colonial governments. Thus, in the middle of the 1920s and in the course of the 1930s, Africans had emerged as subsistence rural dwellers, manifestly unable to support themselves by agriculture and depending for survival on the miserable wages earned in 'white' industrial regions, or on 'white' farms. Therefore, when put in a historical perspective, the social and economic organisation that followed owed much to the policies and activities of the founding landlord of the colony (the BSA Company), and thereafter to the policies of successive settler governments.

The major changes in the economy took root in the years between the two World Wars, when a small manufacturing sector based on the production of consumer goods was established. During the 1930s, the mining industry shed its 'smaller-worker' image and became more monopolistic and capital-intensive, while plantation agriculture became the main source both for satisfying an increasing share of local demand for basic food-stuffs and for providing commodity exports for external markets. The output scale increased rapidly both in terms of volume and value, thereby creating a demand for additional labour.

Following the Second World War, industrialization was intensified and rapid income growth, investment and employment expansion followed. Foreign capital played a pivotal role in the post-war economic development, being responsible for both the inflow of skills and for the infusion of external funds.³² This led to a rapid boom and high growth rates during the Federation of Rhodesia and Nyasaland (1953-1963) in the primary and secondary industries. However, with the prospects of the dissolution of the Federation, Rhodesia experienced a recession during the 1958-1961 period. This was aggravated by internal conflicts largely due to a growing labour surplus and due to the failure to provide an adequate development in the African peasant economy.

Already by the 1950s, the Rhodesian economy was characterized by a relatively high state of development of the modern sector and an extreme inequality of income levels which for most part correlated with race divisions. This basic characteristic of the economy has persisted up to the birth of an independent Zimbabwe (April, 1980). As will be seen in the chapters that follow, this dualistic structure of the economy was due to government policies in shaping the land, labour, capital and produce markets. This resulted in the creation of an unlimited supply of labour and a widening gap between the peasant and capitalist sectors of the economy. In the Zimbabwean case, because of discrimination, there is also a gap in the standards of living between the Africans and the Europeans in both the urban and rural areas. In 1976, average per capita incomes in Zimbabwe amounted to US\$500, which ranks the country somewhat

above the average per capita income of US\$400 for all African countries. However, the average per capita income for Africans, which was slightly in excess of US\$50 contrasts markedly with the figure of US\$8,000 for Europeans, a standard of living which equals average per capita incomes in the United States.³³

Summary of the Present Study

The Theory of Economic Dualism

Chapter 2 presents the hypothesis of the present study, and reviews the theory of dualism. Emphasis is put on the main body of this theory - that represented by the 'classical' model of dualism associated with W. Arthur Lewis. The Lewis model divides the economy into one capitalist sector and one subsistence sector, and goes on to demonstrate that under the classical assumption that labour is in perfectly elastic supply to the capitalist sector, the path of accumulation becomes different from one which is based on the neo-classical assumption that the supply of labour is less than perfectly elastic.

In the Lewis model, economic development is generated in the capitalist sector where reinvestment of the surplus over wages provides savings and the stock of capital increases over time. With further growth of the capitalist sector, the profit share in the national income may vary over time, depending on the nature of technical change, but given the constant real wage rate, it will increase. The Lewis model is mainly concerned with the accumulation of capital in the modern sector and forms the basis for contributions to an analysis of the function and expansion of the modern sector in underdeveloped countries. The subsistence sector is treated as a backlog in the development process, with a function of providing 'surplus' labour at a more or less constant wage to the modern sector.

Space is also given to the sociological, technological and the neo-classical variants of dualism and a criticism of these theories. The main criticism is, however, directed against the skewed distribution of income which results from the specification of the classical model, since

the latter does not necessarily involve an equalising of the existing distribution of income. The rise in capitalist incomes may be accompanied by a declining share going to the members of the subsistence sector. The criticism is also directed against the relative neglect of the subsistence sector, as well as against the assumption that the dualistic structure of the economy is given and that the theory conveniently ignores the forces which stood to gain from dualism - the metropolitan enterprise and the privileged minority in the underdeveloped countries. There is also a criticism of the policy implications of the Lewis model, which seeks to industrialize without the need to divert extra resources to the agricultural sector so that rising inequalities are inevitable in the process.

The reformulation of the theory shifts the emphasis towards the policies and institutions that create and benefit from the existence of dualism. The analysis distinguishes between dualism in general and the specific case of the Rhodesian colonial experience. At the general level, the dualistic structure was mainly caused by the low wage policies of the mines and plantations as well as by discrimination in the provision of infrastructure by government. Land concentration and growing inequalities in the allocation of factors of production also constitute one of the major causes of dualism. The discussion stresses the view that the general shortage of land and those resources that are complementary to land, leads to an artificial population pressure, soil erosion, 'unlimited' supply of labour and skewed distribution of income. This framework of dualism is applied to the Rhodesian case. In the latter, the analysis of dualism is based on a historical perspective, i.e. from the standpoint of the policies of the colonial governments and in particular their land alienation policies.

Land Tenure and Dualism

Chapter 3 gives an account of the origin and initial conditions for the creation of dualism in the economy, and in particular the land alienation policies which gave rise to land concentration and dualism. The discussion begins with a description of the consolidation of the colonial

system and the methods used in shaping the emerging land settlement pattern. It is established that elements of dualism were already present in the foundations of the colonial economy when most of the lands hitherto possessed by Africans were alienated into European areas.

The BSA Company expected gold prospecting to yield quick profit and land was held by the settlers more as a speculative asset than as a production factor. Despite this; the impact of land encroachment on the property rights of Africans was disastrous. Africans were dispossessed of their central lands in the highveld so that they were forcibly evicted into the reserves - lands designated for the exclusive habitation and use by native peoples. In addition to the land alienation policies, the low wage policies of the mines and plantations helped to eventually form the basis for the creation of a distinct 'modern' sector which came to co-exist and thrive by the maintenance of the low productivity and relatively stagnant 'traditional' sector.

A description of the land distribution under the Rhodesian land laws shows that in the early thirties, over 50 per cent of the total land area was already assigned to the whites (3 per cent of the population) and only 30 per cent to the blacks (97 per cent). By 1969, following subsequent land reallocations, the African land area was 46.4 per cent of the total land area, while that of the European area was 46.6 per cent. Already during the thirties, signs of population pressure and overstocking had become increasingly apparent in many African rural areas. This led to problems of soil erosion and low productivity in the African rural areas which in turn resulted in the creation of an 'unlimited' supply of labour in the economy. Dualism was also established in the land quality and farm-size distribution between the African and the European farmers.

The Labour Market

Chapter 4 analyses the development of dualism in the labour market, a dualism which is closely connected to and consequent on dualism in the

land market. This chapter demonstrates that in the long run, labour supplies to the modern sector were generated out of the increasing impoverishment of the African peasant sector. As per capita incomes in the African rural areas declined, rural labourers were forced out of that sector at lower income levels than had previously prevailed which in turn depressed the wages of unskilled labourers in the modern sector. In the early years, however, a cheap labour policy was promoted through different measures such as forced labour, taxation and the supply of extra-territorial African labour. The latter method and the eventual creation of an internal labour supply from the steadily impoverished African reserves, were the main thrust of colonial labour policies.

It is demonstrated that contrary to the belief that the economic development of Zimbabwe had moved from a situation of labour surplus at the beginning of colonization towards an eventual elimination of this surplus, empirical evidence suggests that the labour supply actually moved from conditions of labour shortage towards one of an 'unlimited' supply of labour in the sense of Lewis. During the early years of colonization, African labour avoided mine work for a variety of reasons including low wages and appalling working conditions in the Rhodesian mines. It is shown that the black mine wages actually declined from their level at the beginning of the century, so that by 1922 they were lower than they had been in 1904. Africans could stay away from mine labour and earn the necessary cash incomes from the production and sale of agricultural produce. But this opportunity disappeared as the Africans were evicted from lands near the markets, and relegated to the increasingly impoverished reserves, where they were left with no alternative but to seek wage employment in the modern sector.

In the long run an outward shift in the supply curve of labour in the modern sector was caused by land alienation, foreign labour recruitment and also by discriminatory legislation in the labour market.

Chapter 4 emphasizes the fact that dualism in the land market and 'discriminatory' dualism in the labour market are not independent of each other in the Rhodesian case, but that they are both based on the same condition - that of land alienation from the African majority by the white minority. Thus, the contemporary 'traditional' sector in Zimbabwe was created as a result of policy where the whites gradually took over African lands, thereby changing the production conditions in the original 'traditional' economy to the point where it is almost appropriate to speak of destruction. This in turn, made it possible to call forth an 'unlimited' supply of African labour which by means of discrimination has been confined to the unskilled jobs in the modern sector thereby resulting in a skewed income distribution both when the modern sector is considered separately, and when both sectors are taken together.

This concrete case of an 'unlimited' supply of labour, with its basis in land alienation process, is summarized with the help of a formal model where the economy is divided into one 'modern' (white) and one 'traditional' (African) sector. Both sectors employ unskilled labour and land, while the modern sector also uses skilled labour. The model seeks to explain how an 'unlimited' supply of labour and the conditions which shift the supply of mainly unskilled labour to the right are created as well as the behaviour of wages under conditions of a continued presence or maintenance of 'unlimited' supply of labour in the economy. Once the supply curve of unskilled labour began to shift outwards, employers could consistently adjust wages downwards, as was the case between 1912 and 1933, and also between 1929 and 1945, while the volume of African employment in the modern sector during both periods continued to expand.

The Agricultural Credit Market

Chapter 5 discusses the possibility of savings by the European and African farmers respectively, and the demand and supply of credit in the agricultural sector. This chapter establishes that dualism with regards to

savings opportunities and the supply of credit is directly connected to the existence of dualism in land tenure.

Because of data limitations with regard to savings in the Rhodesian case, the savings opportunities are discussed with the aid of output per capita levels between the two racial groups of farmers. The ability to save is assumed to be related to the per capita incomes of the farmers. A wide differential in the average per capita output between the European and African farmers gives a rough indication that savings in the African peasant sector were extremely low in comparison to European savings.

In spite of their better savings opportunities, the white farmers in Rhodesia still had a high demand for credit. This demand was connected with the need to purchase farms, livestock, farm equipment as well as the need to make land improvements. Available evidence indicates that by 1954, 80 per cent of all the European farmers actually demanded loans for agricultural purposes at one time or another. Moreover, the white farmers also pressed for more government subsidies and extension services. On the other hand, though Africans also needed credit for a variety of purposes, including the buying of land and short-term consumption requirements, the government placed obstacles to forestall the demand for credit by the African farmers. In this case, African credit requirements could not be met.

Dualism in the credit market is more easily illustrated by the supply of formal credit. The European farmers had access to public credit sponsored by the Land and Agricultural Bank for long-term and medium-term loans from 1912 onwards. On the other hand, Africans had no access to credit facilities until 1945, when the Land and Agricultural Bank started a loan scheme for the African Purchase Areas. The volume of these loans was quite low, and the loans were limited to permanent improvements. Loans to African peasants in the Tribal Trust Lands which had not been made available from public credit sources until the 1960s, were on a minimal scale. The reason for the low level of credits available to the African

sector mainly stem from the preservation of the traditional land tenure system which precluded the use of land as collateral and from outright discrimination in the provision of credit. All additional reasons for the low level of credit such as high default rate, lack of interest in repaying loans, and lack of extension services to give information about the opportunities to invest were dependent on the dualistic structure of the land market.

Interest rates were not important in the allocation of credit among farmers since they were fixed by government regulation. This was a form of subsidy to the farmers, since as interest rates remained unchanged for long periods while the inflation rate increased (to between 10 and 12 per cent up to 1979), the real rates became negative.

The Agricultural Produce Market

In Chapters 3 and 4 it is shown that the peasants avoided mine labour because the opportunity cost of producing and selling agricultural produce was lower than that of going into the labour market. Chapter 6 analyses the development of the agricultural produce market with emphasis on the marketing institutions and price policies that affected the marketing of the agricultural products. The discussion begins with an analysis of the decline in the participation of the African peasantry in the produce market.

The increasing African dependence on exchange with the capitalist sector, which had been evident at the turn of the century, had begun to be reversed by the first decade of this century. This development can be explained by the slump in produce prices and more fundamentally, by the decreasing land area occupied by Africans and the concomitant increase in population pressure by both humans and livestock. This development led to a reversal in the relative importance of the sale of agricultural produce in relation to the sale of labour time as sources of cash incomes among Africans.

With regard to the marketing institutions, there was a tendency towards the growth of government control over the marketing of the agricultural products. In the 1930s, government control of marketing was limited to maize and cattle, whereas by the 1960s almost all the country's major agricultural products had come under the control of the Marketing Boards. European products were either marketed through the Marketing Boards or through the cooperatives and producer associations. African products could also be sold through the Marketing Boards, but in practice only the larger farmers could take advantage of this marketing channel. Most of the Africans in the Tribal areas sold their products through approved buyers (agents of the Marketing Boards). All products marketed through the approved buyers were subject to a series of levies, which included a levy paid to the development fund and a uniform transport levy irrespective of the distance from the railway depot. Since the white producers were not subject to these levies, the system served as a disincentive for African produce. Similar discriminatory price arrangements were administered through the quota system for deliveries of maize to the Marketing Board. In the latter, a two-price system was instituted for the local market and for the export market. The local market price was 30 to 50 per cent above the export price so that it became more profitable to have a bigger quota in the local market pool. The white small farmers were given 80% of their deliveries to the local market and 20% to the export pool. At the other extreme, the African farmers were allotted only 20% of their deliveries to the local market and 80% to the export pool. Thus, there was no incentive for maize deliveries from the African farmers. The other method of price discrimination was the grading system of maize. African deliveries were almost invariably paid for at the lowest grade. (Afterwards the approved buyers would re-grade some of this maize and consequently obtain a better grading in the Marketing Board.) A discriminatory grading system was also practiced in the cattle market between 1944 and 1956. For example, the Cold Storage Commission (which held a position of a near monopsonist in the buying of African cattle) fixed the two top grades of exclusively European stock at a price which involved it in losses, and these losses were recuperated by manipulating the grade and price of African produced stock. Thus, under the marketing institutions, a dual price system served as a disincentive against African products.

Finally, it is evident from an examination of the transport system that it was heavily concentrated in the white areas and away from the African areas. Since transport is a factor input in the marketing of agricultural produce, its locational bias had adverse effects on productivity.

The Consequences of Dualism

Having established the causes and the existence of dualism in the preceding chapters, the effects or consequences of dualism are analysed in Chapter 7. The focus in this chapter is on the interdependent relations in the economic structure that have had the effect of depressing the standards of living or the per capita incomes of the African majority while raising the per capita incomes of the white minority. These relations have been discussed in terms of an analysis of relative factor prices. The analysis is based on the evidence gathered in Chapters 3-6 which shows that the Europeans and Africans have not faced the same relative factor prices. Consequently, there were markedly different factor proportions (along racial lines) used in the agricultural sector with the white farmers using land and capital-intensive techniques (since land and capital were cheap in terms of labour for the whites), and the Africans using labour-intensive techniques, as labour was cheap in terms of land and capital for the latter. This dualistic structure led to a differential adoption of capital-using technology by the farmers.

The discussion goes on to show that the low propensity for innovation among the poor peasants is aggravated by the indivisibilities that face the small-size production units. This militates against the adoption and use of the larger units of capital inputs which offer greater economies of scale. Furthermore, given the fact that the propensity to take risk is a function of the individual's wealth, the poor farmers will often avoid taking risks because of the negative weight in their objective functions given to the losses that they might incur.

In addition to the influence of the relative factor prices, a cumulative tendency exists for output per worker to fall in the African areas. The

widening gap between European and African per capita income is due to the increase in the man-land ratio in the African designated areas. In the long run, the development of population pressure in these areas has affected the distribution of incomes per capita in both the rural and the modern sector. Thus, because of population pressure in the African rural areas, the natural growth in numbers could no longer be absorbed without a reduction in the per capita product. This led to an 'unlimited' supply of labour in the modern sector which further depressed the wages of unskilled labour.

As a result of the consequences of dualism, a disparity in incomes along racial lines has affected both the agricultural and the modern industrial sector. In the former, the European farmers were able to lower their production costs and expand output levels, while the Africans saw their output levels lowered which affected their per capita incomes. In the modern sector, the wage gap between white and black workers was also influenced by 'discriminatory' dualism in the labour market. A substantial difference in wages existed in all parts of the modern sector. From the fifties to the seventies, the disparity in the wage earnings between whites and blacks was in the range of 10:1. The wage differentials were wider in those sectors of the labour market where union formation and the minimum wage laws were not applicable, such as in the case of farm and domestic service workers. When the African wages are matched with the basic needs of the workers and their families it becomes clear that African workers and their families are living in poverty. (The incidence of poverty is explained by the notion of the Poverty Datum Line.) In 1973, it was estimated that over 70 per cent of the workers in the modern sector were living below the Poverty Datum Line.

The last part of the chapter attempts to provide some suggestions as to the solution of the problem of dualism. The discussion focuses on the question of what development strategies should be adopted in order to gradually reduce and eventually destroy dualism in the economic structure. A review of proposals by certain specific studies on future changes in

the Zimbabwean economy is given. It is emphasized that a proper solution of dualism in Zimbabwe will critically depend on the forms of the structural changes in the agricultural sector. Policy options on the land reform and choice of a development strategy are suggested.

1. For a Standard book on the Zimbabwean geography, see Kay (1970).
2. Coloureds are defined as persons who are descendents of any two or three of the following races: Africans, Asians and Europeans. In the Rhodesian official definition Coloureds must 'not be living among and in the manner of Africans'. (Rhodesia - Census of Population (1969), p. 2.)
3. Economic Survey of Rhodesia (July, 1978), p. 5.
4. Blake (1977), Gann (1969), Beach (1976), (1977), (1980), Moyana (1975), Palmer and Parsons, eds. (1977), Phimister (1974), Bhebhe (1974), Bhila (1972).
5. 'In 1600 Portugal traded with the central African kingdom of Monomotapa as well as with Japan.' (Wallerstein (1974), p. 301.)
6. For details, see Makoni and Ndlela (1980).
7. Phimister (1974), p. 447.
8. Beach (1980), p. 26.
9. Ibid., p. 41.
10. Ibid.
11. Ibid., p. 42.
12. Ibid., p. 37.
13. Ibid., p. 26.
14. Beach (1976), p. 6.
15. Beach (1980), p. 30. For details of the functioning of gold digging and cloth as a medium of exchange, see Wright (1979), pp. 216-17.
16. Though Zimbabweans also relied on hunting and gathering activities the latter were secondary to the reliance upon agriculture and herding which were the primary sources of food. (Beach (1977), p. 40.)
17. Palmer (1977:1), p. 15.
18. Beach (1980), p. 29.
19. Bhebhe (1974), p. 88.
20. For details on the drought spells or shangwa (crop disaster as a result of drought, locusts or other diseases) in Zimbabwe, see Makoni and Ndlela (1980).

21. Arrighi (1979), p. 165.
22. Beach (1977), p. 49.
23. For details, see Beach (1977) and Makoni and Ndlela (1980).
24. Cf. Kosmin (1977).
25. Ibid., pp. 275-76.
26. Palmer (1977:2), p. 223.
27. Mlambo (1972), Chapter 1.
28. In 1886, gold was discovered on the Witwatersrand (the Ridge of the White Mountains) in the Transvaal in South Africa. The Rand Mines Ltd., a mining group formed in 1893 to develop deep level gold workings on the Witwatersrand has meant that gold mining in South Africa has ever since been associated with the Rand Mines. (Rosenthal (1961), p. 414 and p. 584.)
29. Stigger (1971), pp. 12-13.
30. Rifkind (1972), p. 53.
31. Arrighi (1970), p. 202. This will be dealt with in detail below.
32. For a detailed analysis of foreign capital in the Rhodesian economy, see Stoneman (1976), and Clarke (1980).
33. Rhodesia - Supplement to the Monthly Digest of Statistics (July, 1978).

The Hypothesis of the Present Study

The subject of economic dualism has been dealt with at length and in various forms in the literature of development economics, and revisiting it may not only be justifiable but it is essential for our understanding of the binding relations behind the phenomenon of underdevelopment.¹ Dualism manifests itself in many ways and is an inherent part of the subject matter of underdevelopment which is still with us and may continue to be so until well after the turn of the century.

The central task of the present study is to demonstrate that the dualistic economic development in Zimbabwe was the result of consistent efforts of government economic policies and monopoly power possessed by large-scale operators and employers of labour in the modern sector. Policies of land alienation, discrimination and low wage levels in the wage employment sector, unequal provision of capital inputs between the African peasant farmers and the large-scale white farmers as well as discriminatory marketing arrangements in the produce market form a system of causation that constitutes the interrelationships of dualism. The essential feature of dualism in Zimbabwe is that causation runs from imperfections in the land market to other factor markets. This results in a downward causation of interlocking components starting from population pressure on the African lands, soil erosion, low productivity, and ending in low and falling incomes per capita both in the rural African areas and in the modern sector.²

Recent advances in the empirical knowledge of underdeveloped economies show convincing evidence that the distribution of income of the rural masses in these economies as well as their absolute standard of living are highly dependent on the degree of concentration of landed wealth, that rapid growth does not guarantee that those in the bottom deciles of the socio-economic strata can improve their relative, or even their absolute position, and that economic policies employed have a pronounced class bias which tends to disfavour those who own little property. In the specific conditions of Zimbabwe this concentration of land-ownership was fostered by the land alienation policies of successive colonial governments as well as by racial discrimination by law. The existing stock of assets, especially land resources, was

acquired by whites through the alienation of the African property. Thus from the standpoint of origin, economic dualism has its roots in colonialism. In general terms, dualism on the social and economic level became entrenched as the enclave economy, i.e. a mining and plantation sector, became super-imposed on the traditional pre-capitalistic economy.

Once inaugurated, the policies of governments frequently reinforce particular social structures. This of course comes as no surprise 'since governments are part of the society and respond to pressures exerted by those who possess political and economic power.'³ One major consequence of these pressures manifests itself in the so called 'anti-rural bias'. However, many such policies have a greater stance on a class rather than a locational or sector bias.⁴ The class bias of these policies is often seen in the channelling of scarce foreign exchange resources towards well established economic units of the modern sector to the disadvantage of small producers and potential competitors. Similarly, the low real interest rates on loans from the banking system and the associated lack of credit rationing policies, encourage the adoption of capital-intensive methods of production both in industry and in agriculture. Given the structure of factor endowments (the amounts of factors of production that the country possesses) in an underdeveloped country and the greater capacity of the small economic units, notably small farmers, to employ more labour units in combination with any extra development resources received, 'urban-bias' policies tend to be inefficient in terms of misallocation of resources and have a negative impact on equity.⁵

Definitions

In the literature, most writers define dualism as the co-existence of the capitalist sector and the subsistence sector (largely a 'traditional' agricultural economy) within the framework of an underdeveloped economy. The capitalist sector is that sector which uses reproducible capital from which the operating capitalists derive a surplus or profit, part of which is re-invested in the production cycle. The subsistence sector may include everything else, but it is largely identified with traditional agriculture. Thus, while the subsistence sector is often identified empirically with the traditional agricultural sector, the surplus labour that is often located in the traditional agriculture may also be found in petty trade, the often

overmanned domestic service and other service occupations.⁶ It is, however, clear that, in a certain sense, this definition deals with the problem of dualism at the superficial level - taking the dualistic structure as given. For our purposes, the focus will be on the origin and initial conditions for creation and maintenance of dualism. In this sense dualism (social and economic) is also defined as including the creation of initial conditions by the entry of foreign capital or colonialism into the 'original' pre-capitalistic indigenous economy. Land alienation policies and the low wage policies of mines and plantations were the initial forms of exploitation which later became institutionalized as the creation of a distinct 'modern' economy came to co-exist and thrive by the maintenance of the low productivity and relatively stagnant 'traditional' sector.

The advantage of the analysis sketched above over the 'conventional' one that was in vogue during the 1950s and the early 1960s is that it does not overlook the initial conditions that create dualism. Our definition does not take the dualistic structure of the economy as given, but instead it proposes to investigate the principal causes of dualism in order to suggest a restructuring of an economy that suffers from stagnation that is to a large extent caused by dualism. Our analysis will focus on the influence of government policy and the monopoly elements that affect factor markets in order to understand the crucial links between the economic sectors.

The present chapter reviews the main theories of dualism in development economics. The theories of sociological, classical, technological and so called neo-classical dualism are discussed in order to examine their theoretical propositions and to assess their relevance in relation to studies of actual underdeveloped economies. Our criticism of the theories of dualism, especially the main variant - classical dualism - is focused particularly on the relative neglect of the traditional or subsistence sector in the analysis.

Whilst the rest of our analysis will rely on the main foundations of the theory of dualism, we also put forward an alternative approach to the theory. In the latter, we will build on a theory originated by Keith Griffin,⁷ that set on to focus attention on the binding relations of dualism in factor markets as well as possible consequences of dualism. The remain-

ing chapters of the study are concerned with an analysis which focuses on the initial conditions for the creation of dualism in the Zimbabwean economy.

Our methodology will rely on the use of such macroeconomic concepts as the standard of living, per capita incomes, aggregate production and average output levels. Microeconomic analysis will be limited to the sectoral level of the economy. This is because a discussion of dualism at the national level assumes that the more significant variables pertain to society, and individuals are affected as their standards of living thereby become influenced in one way or another. In addition, our methodology benefits from the assumption that economic analysis of underdeveloped countries concedes the fundamental significance of the distinction between 'growth' and 'development' and therefore permits the explicit incorporation of social and political issues. In the literature dealing with development economics there is growing realisation that economic issues cannot be scientifically considered in isolation, especially from political and social issues such as class and organisation which lie at the heart of the production relations underlying the economic and social structure. This proposition is by no means limited to development economics as for example Nicholas Georgescu-Roegen has observed:

It is...understandable for physics to treat as fiction and view with mistrust the unobservables it had to invent in order to unify into one picture disparate observables and thus simplify its logical foundation. But there is absolutely no reason for economics to treat as fiction the very springs of economic action - wants, beliefs, expectations, institutional attitudes, etc. For these elements are known to us by immediate acquaintance, that is, more intimately than any of the economic 'observables' - prices, sales, production, and so forth.⁸

Theories of Dualism

Modern models of dualistic development came into being during the 1950s when economists focused on how capital accumulation could occur under the conditions facing the underdeveloped countries. As shown in the definition of dualism above, one of the well known and influential exponents of dualism theory is W. Arthur Lewis. In this section we shall review the main body of dualism theory and emphasis will be put on the main variant of this theory -

that represented by the model of classical dualism originated by Lewis.⁹ The other variants are: the sociological, the technological and the neo-classical approaches to dualism theory. However, as Harold Brookfield has shown, the idea of dualism at least goes back to Malthus and Marx, and the Russian economist Alexander Chayanov had during the 1920s pointed out the peasant economy as a special type of an economy with the analytical properties of dualism.¹⁰

Sociological Dualism

Development economics in the fifties and sixties started off as an unusual mixture of classical economic propositions and the prevailing economic and social theory of western countries tailored with assumptions thought to be appropriate to the institutional framework of underdeveloped countries! Development economics sought to forge a distinctive theory which was applicable to the latter. Before Lewis came to grips with dualism, J.H. Boeke, a Dutch economist, had already developed the idea of social dualism. Boeke is perhaps the leading exponent of the attempt to develop a distinctive theory which may be applicable to underdeveloped countries. His theory of sociological dualism was formulated on the basis of his experiences in Indonesia, and was duly presented as a theory of 'eastern societies'.¹¹ The underlying assumption of Boeke's theory is that the traditional sector is more or less given, and that the penetration and spread of modern capitalist thinking and ideas will be ineffective there. 'We shall do well', writes Boeke, 'not to try to transplant the tender, delicate hot-house plants of western theory to tropical soil, where an early death awaits them.'¹²

Business and entrepreneurship had been in the hands of the Dutch and Chinese for so long that many Dutch officials and economists were convinced that the Indonesians were not business-minded. Boeke writes that 'Capitalism can only be realized by capitalist-minded individuals,... There is no question of the eastern producer adapting himself to the western example technologically, economically, or socially.'¹³

Boeke defines dualism as the clashing of an imported social system with an indigenous traditional system of another style. Most frequently the imported social system is capitalism, but it may be socialism or communism

or a mixture of them both.¹⁴ Thus, dualism is a direct result of the introduction of capitalism into a pre-capitalistic society. Social dualism is a lasting formation and is always the result of the penetration of the imported, foreign social system. As the two societies are diametrically opposed in character, 'neither of them becomes general and characteristic of the society as a whole'; therefore 'as a rule one policy for the whole country is not possible ... and what is more beneficial for one section of the society may be harmful for the other.'¹⁵

The chief characteristic of the pre-capitalistic sector is the 'limited' needs, in sharp contrast with the 'unlimited' needs of a western society. The members of the former sector are supposed not to respond to economic incentives. Thus, writes Boeke,

When the price of coconut is high, the chances are that less of the commodities will be offered for sale; when wages are raised the manager of the estates risks that less work will be done; if three acres are enough to supply the needs of the household a cultivator will not fix six; when rubber prices fall the owner of the grove may decide to tap more intensively, whereas high prices may mean that he leaves a larger or smaller proportion of tapable trees untapped.¹⁶

Because of the 'limited' needs, according to Boeke, eastern society (in contrast to the unlimited needs of a western society) is characterized by backward-sloping supply curves of effort and risk-taking, so that the supply of labour and that of the entrepreneurial efforts after a certain point diminish as the wage level and the level of expected profits, respectively, rise. Boeke assumes an almost complete absence of profit seeking (with the exception of speculative profits). There is total a lack of that continuity in profit seeking which characterizes a regular income. Hence there is no professional trading in the eastern society.¹⁷

In many respects Boeke's theses have been proved to be incorrect. A great deal of research evidence points out that the differences between the developed and underdeveloped countries are not as sharp as Boeke believed them to be. The main criticism of Boeke's theses is found in Benjamin Higgins' work.¹⁸ The notion of the 'inert peasant' bound by custom and tradition, unresponsive to production and consumption possibilities or the 'satisficing

peasant' who will only provide the effort needed to achieve a fixed income target has been criticised by many writers. The existence of the Boeke type of economic insulation of pure subsistence societies was obviously a very rare phenomenon (which was at best on its way out) in underdeveloped countries.

The idea of 'limited wants' was strongly rejected by Higgins.¹⁹ While there may be an element of truth in saying that the people of underdeveloped countries may have trouble in finding efficient ways of raising their standard of living by their own efforts or enterprise, Higgins argues that it is definitely not true for example in Indonesia that the people cannot envisage a standard of living higher than their own or that they could think of no satisfactory ways of spending increases in income.²⁰ In his criticism of the theories of dualism, Keith Griffin may be right in suspecting that the lack of empirical evidence to justify the argument that labour works less when paid more suggests that the Boeke thesis might be drawn from former colonial times when local people were forced to raise money only in order to pay taxes to the colonial regime. In such a situation, if the tax bundle could be raised by less effort there remained no need to work hard in raising more funds.²¹ In the literature there is considerable evidence of allocative efficiency in input combinations and output choices shown by peasants in underdeveloped countries.²² We shall return to the criticism of Boeke in the following section.

Classical Dualism

'Classical' dualism à la W. Arthur Lewis was introduced by the latter's pathbreaking paper 'Economic Development with Unlimited Supplies of Labour' in 1954.²³ The Lewis model draws on the historical experience of Western industrialized countries and on the ideas of the classical economists to derive a general picture of the development process. The model is in the classical tradition in the sense that the classics had addressed themselves to the problem of growth in a largely agrarian economy where an 'unlimited' supply of labour was available at subsistence wages. Lewis shows how the classical assumption that labour is in perfectly elastic supply to the capitalist sector leads to conclusions

different from those based on the neo-classical assumption that the supply of labour is less than perfectly elastic. The author believes that a model couched in the classical assumptions illuminates several problems of economic growth which modern economics cannot solve. Lewis divides the economy into one capitalist and one subsistence sector.²⁴ The capitalist sector is 'that part of the economy which uses reproducible capital and pays capitalists for the use thereof', or that sector of the economy in which labour is employed for wages for profit-making purposes.²⁵ The subsistence sector is that part of the economy outside the capitalist sector. While the subsistence sector is often identified empirically with the traditional agricultural sector, Lewis notes that surplus labour may also be found e.g. in petty trade, the often overmanned domestic service and other service occupations. Because of this composite nature of Lewis's subsistence sector some writers are apt to argue that even today's informal sector of underdeveloped economies can be satisfactorily analysed under the Lewis assumptions of a dual economy.²⁶

Functionally, the model assumes the existence of 'unlimited' supplies of labour in some, though not all, countries in the early stage of development process, so that the labour supply to the capitalist sector will exceed demand at a wage that can remain constant during a prolonged period of development with labour transfer from the subsistence to the capitalist sector. The purpose is 'to provide a mechanism explaining the rapid growth of the proportion of domestic savings in the national income in the early stages of an economy whose growth is due to expansion of capitalist forms of production.'²⁷ In other words, the non-capitalist sector is postulated to be a temporary reservoir from which the capitalist sector draws its labour. The key features in the process of capital accumulation are illustrated in Figure 2.1. On the horizontal axis we have the quantity of labour, while on the vertical axis there is the wage and the value of the marginal product of labour.

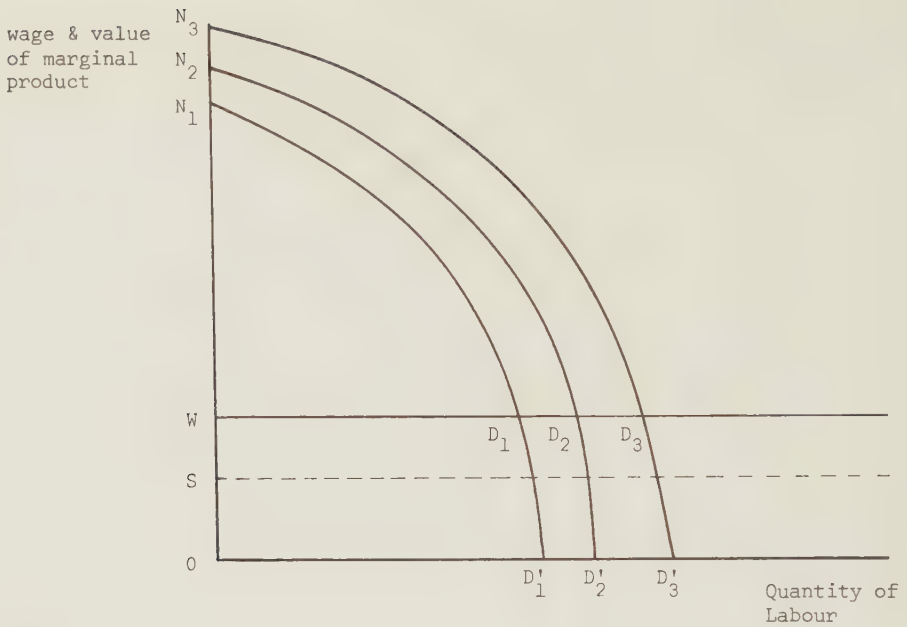


Figure 2.1

Given the fixed amount of capital at the initial stage, the demand for labour may be represented by the marginal productivity schedule for labour $N_1 D'_1$ in Figure 2.1. With employment in the capitalist sector determined by ordinary maximizing principles, labour will be applied to the point where the current wage equals the value of the marginal product of labour. When the latter is $N_1 D'_1$ and the wage is OW , WD_1 workers will be hired. The capitalist profit share is $N_1 D'_1 W$, and Lewis assumes that this share will be reinvested. In this sense, the system is dynamic, since savings occur, and the stock of capital will increase over time.²⁸ As a result this raises the marginal productivity schedule to $N_2 D'_2$ and employment increases, etc. As the development of the capitalist sector

proceeds, the share of profits in the national income might vary over time, depending on the nature of technical change but given the constant real wage, it will almost certainly rise. Even if the profit share remains constant, the growth of the capitalist sector relative to the subsistence sector will lead to a growing share of profits in the national income.²⁹ Lewis assumes that capitalists save and invest a large part of their income than is the case with other forms of income. Thus, the savings ratio will increase and with it the capital accumulation on which economic development depends. (This process is illustrated by an outward shift of the marginal productivity schedule of labour as more capital per unit of labour is applied.) Capital accumulation is certainly ensured as the labour supply to the capitalist sector is infinitely elastic at a constant real wage OW . Labour supply is unlimited in the sense that if capitalists offered additional employment at the existing wage, there will be more candidates than they require.³⁰

An important part of the Lewis model is the question of what determines the wage in the capitalist sector. Lewis says that this wage is determined by the alternative available to those entering capitalist employment, i.e. by the standards of living in the subsistence sector or what people earn there,³¹ as shown by the following quotation:

... in economies where the majority of the people are peasant farmers working on their own land, we have a more objective index, for the minimum at which labour can be had is now set by the average product of the farmers; men will not leave the family farm to seek employment if the wage is worth less than they would be able to consume if they remained at home.³²

In Figure 2.1, OS represents an income received by workers in the subsistence sector. The wage in the capitalist sector is OW , and must be somewhat above the average income in the non capitalist sector. In practice the wage will have to be above the minimum subsistence wage by a margin which is necessary to induce labour transfer. It is suggested by Lewis that the margin may be 30 per cent or more, though the exact size of the gap is not important to his argument. The reasons for this higher wage include higher costs of living in the towns, the psychological cost of

transferring from the much easier life style connected with traditional activities to the much tighter discipline of industry, and also perhaps higher conventional standards of life in the urban areas.

The wage gap view seems supported by the fact that employers in the modern sector of underdeveloped countries rarely have any difficulty in recruiting a labour force. But this does not demonstrate that the labour supply curve is horizontal, for it is quite possible that, for one reason or another, employers could pay either more or less than the supply price of labour. In the former case, industrial wages may be forced upward by the minimum wage legislation, trade union pressure or other institutional forces. On the other hand, wages may also be forced down by institutional controls and discrimination. The supposed link between the level of rural incomes and urban wages has not followed Lewis's predictions, but the gap has widened enormously for reasons not connected with the level of wages in the subsistence sector.³³ We shall return to this later on in the section below.

The Lewis model could also imply a general disguised unemployment in the subsistence sector (both the rural peasant sector and the urban informal sector). There may be zero marginal productivity of labour so that the labour transfer can take place without loss of output in the subsistence sector. Thus if the marginal productivity rises as labour transfer takes place, the wage level ought to rise too.³⁴

As already noted above, the growth of the capitalist sector must accelerate as long as the share of profits in the national income is increasing. This phase comes to an end when the labour surplus has been absorbed and wages begin to rise. There exist circumstances, however, when the wage level might increase and eat into the capitalist surplus when a labour surplus still exists. This may come about for the following reasons: (a) rising living standards in the subsistence sector might exercise an effect on the minimum real wage; (b) where trade between the capitalist and subsistence sectors exist and the former buys the wage goods (such as food, fuel and clothing) from the latter, worsened terms of trade might cause even a constant real wage to take a larger share of the capitalist

product; (c) the workers in the capitalist sector might by trade union action or by government minimum legislation manage to widen the gap between their wage and the subsistence sector standards. Any of these reasons may be sufficient cause to end the expansion of the capitalist sector even though there is still surplus labour available at the constant wage. Otherwise, the expansion ultimately leads to the exhaustion of the labour surplus, that is, it makes the supply curve for labour turn upwards.

Lewis could not give a satisfactory analysis of the conditions for this turning point. The Lewis model does not discuss the conditions of the expansion or development of the subsistence sector. There are statements in the Lewis texts describing the stagnant conditions of the earnings and productivity of the subsistence workers,³⁵ but the Lewis model treats the subsistence sector as a backlog in the development process of the modern capitalist sector and makes no effort to describe any development process of the peasant agricultural sector. Therefore, the model sheds little light on the subsistence sector, though it does perhaps recognize the plight of the latter.³⁶ The task of analysing the conditions of the turning point in some more detail was left to Ranis and Fei.³⁷

Ranis and Fei retain the Lewis's postulate of 'disguised unemployment' in the traditional agricultural sector, but in addition, they attempt to introduce technological change both in the agricultural and in the industrial sector. These authors draw on the classic problem of population pressure on the land but unlike the classics they handle it in conjunction with the reallocation of the surplus labour from the agricultural to the industrial sector. In their model economic surpluses can be generated as profits in both the industrial and the agricultural sectors; and 'the intersectoral channelization of this savings fund constitutes an essential ingredient of the dualistic framework of thinking.'³⁸

In the long run, the problem of successful development requires that the rate of reallocation of the disguisedly unemployed members of the initial agricultural labour force be in excess of the population growth which is continuously augmenting this agricultural reserve army. But for the sake

of simplicity the analysis is carried out under the assumption of a static population.

Fei and Ranis explain the turning point with the aid of the concepts of redundant labour, disguised unemployment and institutional wage.³⁹ In Figure 2.2 the vertical axis represents the total output of the agricultural sector measured downwards. On the horizontal axis we have the agricultural labour force which is measured from right to left. The XQZG curve describes the total physical productivity of labour (TPPL) of the agricultural sector of the dualistic economy. This curve is assumed to have a concave portion XQZ which shows a gradually diminishing marginal productivity of agricultural labour force as we move from right to left, and a horizontal portion of GZ where the marginal productivity of labour equals zero. Any agricultural labour force in excess of XB units is thus considered redundant in the sense that its withdrawal would not affect agricultural output. The non redundancy portion equals XB/XA .

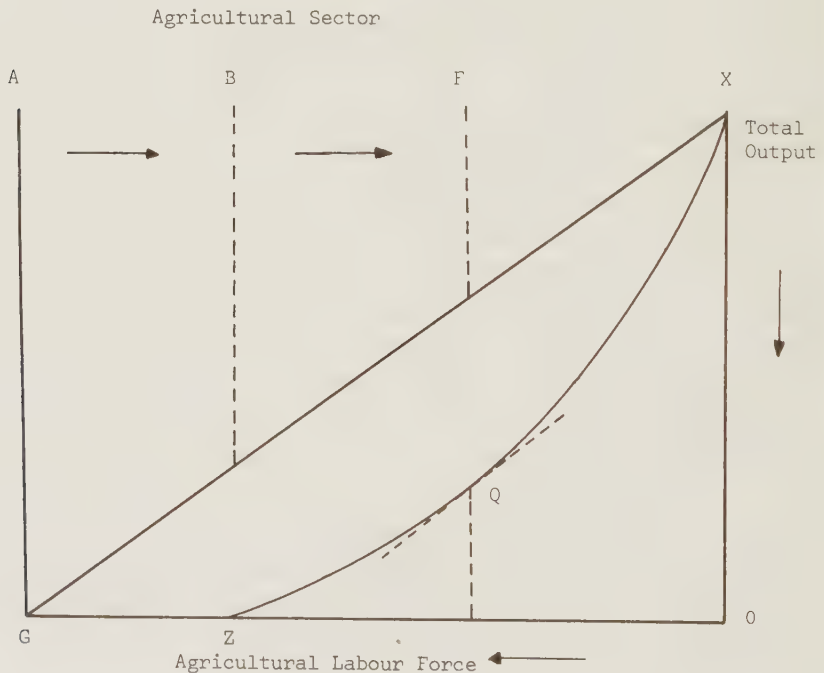


figure 2.2

The concept of constant institutional wage CIW is represented (as a first approximation) by the slope of the straight line XG. This is equal to the average product of agricultural labour. If Q on the total output curve represents the point at which the marginal physical productivity MPPL is equal to CIW, and since the dotted tangential line at Q is parallel to XG, we can define AF workers as the total disguised unemployed in this sector, i.e. all those workers whose wage income (CIW) is in excess of their contribution to output (MPPL). The disguised unemployment include those with a zero marginal product - the redundant labour force - and those with a low but positive marginal product below the CIW. Fei and Ranis say that 'redundancy is thus seen to constitute a technological phenomenon, determined, ... by the production function and the economy's endowment ratio. Disguised unemployment, on the other hand, constitutes an economic concept, depending on the wage level as well.'⁴⁰

In figure 2.3, the vertical axis measures the agricultural output per worker i.e. the average output. The horizontal axis measures the agricultural labour force from right to left. Let the DCAP curve represent the MPPL curve in the agricultural sector, with the negatively sloped portion DCA and the horizontal portion AP. If we mark off the CIW on the vertical axis as PS (corresponding to the slope of XG in Figure 2.2), we are able to distinguish three regions or phases in the labour reallocation process: phase 1 is the range PA for which labour is redundant, i.e. $MPPL = 0$; phase 2 is the range for which MPPL is less than the institutional wage (phase 1 and 2 together mark off disguised unemployed labour force PR); phase 3 (RO) is the range for which the MPPL is greater than the CIW.

Fei and Ranis have assumed that the institutionally determined wage level PS continues to prevail as long as some disguised unemployed workers remain in agriculture, but a wage rate equal to the marginal productivity of labour begins to operate once all the disguisedly unemployed workers have been reallocated. At point C, the MPPL surpasses the institutional wage rate and the real wage rate curve begins to turn up following the MPPL curve along CD. In this phase, labour's marginal contribution is greater than the socially determined institutional wage level PS. As a result, it is to the advantage of the landlords to compete actively with the industrial sector for labour rather than to encourage its departure.

Agricultural Sector

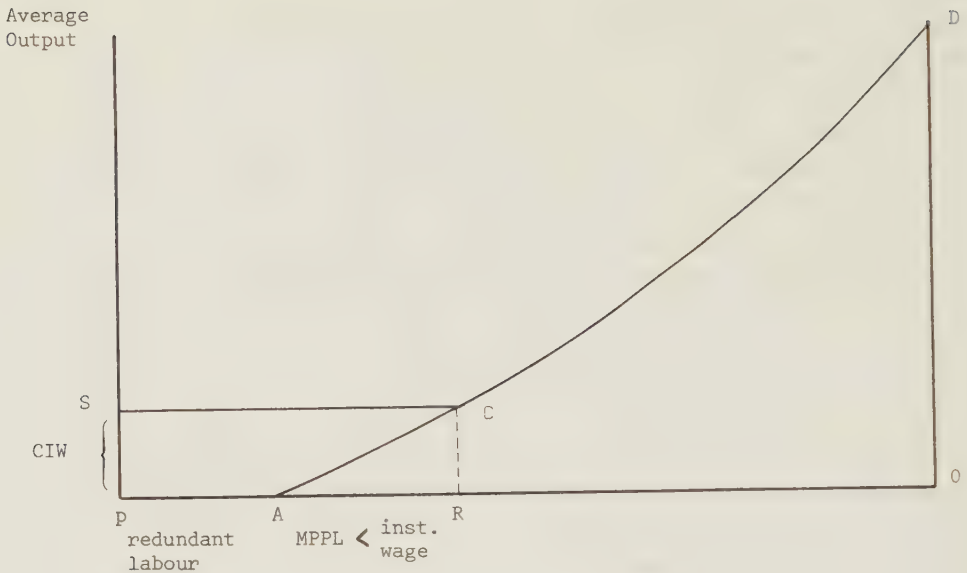


Figure 2.3

This is the turning point which comes with the final absorption of the disguisedly unemployed labour and when the agricultural sector is commercialized (the institutional wage abandoned). The competitive market forces yield the commonly accepted equilibrium conditions. The agricultural real wage in terms of agricultural goods is defined by the curve SCD, the supply-price curve of agricultural labour.

The turning point may also be explained by a shortage of agricultural goods measured in the average agricultural surplus which may spark off a deterioration in the terms of trade of the industrial sector and a rise in the industrial real wage measured in terms of industrial goods. This is in line with the Lewis's 'worsening terms of trade'⁴¹ for the industrial sector which occurs as a result of a shortage of agricultural commodities exchanged for industrial goods in the market. Because of the 'exhaustion of the labour surplus' (interpreted as a market phenomenon rather than as a physical shortage of manpower), an increase in the real wage ensues at

the source of the supply. For the simplicity of their exposition Fei and Ranis assume equality of the real wage rates of industrial and agricultural sectors. Under this assumption there is a tendency for the industrial supply curve of labour to turn up after point C. Lewis on the other hand says that because of urbanization, transfer costs, etc., there may be need to maintain an industrial real wage (about 30%) above the institutional wage in agriculture.

As the description of the 'classical' dualism theory shows, the Lewis model made contributions to the analysis of the functioning and expansion of the modern industrial sector in underdeveloped countries. Economic development was to be generated in the modern capitalist sector where re-investment of the surplus over wages is the main fuel of the modern sector expansion. The subsistence sector was treated as a backlog in the economic system, providing 'surplus' labour at a more or less constant wage to the modern sector. Thus, whilst the Lewis model gives a substantial positive contribution regarding the possible behaviour of the modern sector, given certain assumptions, this contribution was, however, in a sense short-circuited by its neglect of the very sector which is at the centre of anxieties about the distributional consequences of dualism. The Ranis and Fei model, attempted to close this gap by assuming that for economic development to take place in the context of a dualistic economy, the agricultural sector must produce a large enough surplus, so that together with profits simultaneously generated in the industrial sector, the expansion of the latter can be adequately fueled. By focusing more closely on the conditions of the expansion of the agricultural sector, Ranis and Fei were thus able to describe satisfactorily the conditions of the turning point. (Given our purposes, the discussion of the Fei and Ranis dualistic model is limited to their contribution regarding the conditions of the turning point in the economic development of a dualistic economy.)

Technological Dualism

A second important variant of economic dualism within conventional economic theory is known as technological dualism. This variant represented mainly by Richard Eckaus⁴² and Benjamin Higgins⁴³ postulated that western economic theory was applicable to underdeveloped countries provided that certain assumptions were properly adapted to the institutional frame-

work of these countries. This school treated the old problem of disguised unemployment or redundancy as 'technological unemployment' which they saw as a consequence of 'technological dualism', where different production functions were used in the capitalist and subsistence sectors.

Eckaus argued that productive employment opportunities in underdeveloped countries may be limited not by lack of effective demand but because of limitations on resources and technology in the two sectors.⁴⁴ His analysis begins with the simplified and abstract case represented in Figure 2.4. In the first case he considers that only one good is produced in the economy, national product, which requires two factors, capital and labour. Capital is measured on the vertical axis and the labour units - on the horizontal axis.

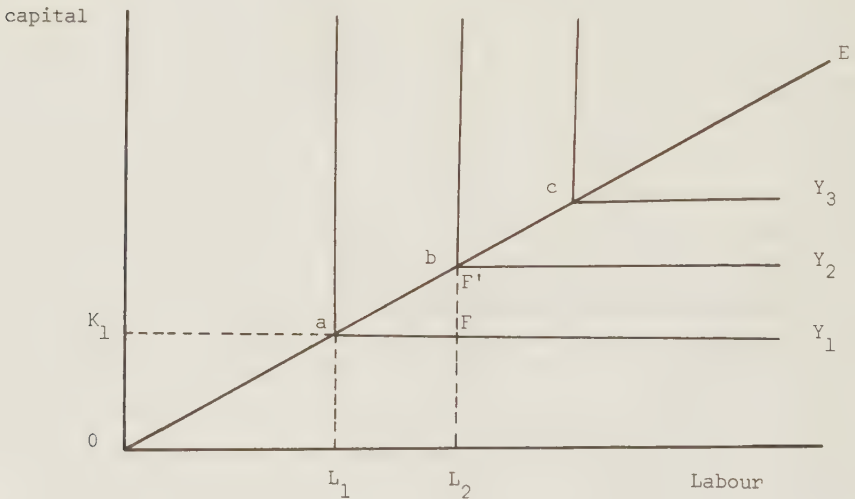


Figure 2.4 A Production Function with Fixed Technical Coefficients

Let us assume for the first case that only one process can be used to produce the national product and that the factors must be combined in fixed proportions. Points a, b, c, etc in Figure 2.4 denote the fixed combinations of factors capital and labour that would be used to pro-

duce outputs Y_1, Y_2, Y_3 , etc, irrespective of what the relative factor prices might be,⁴⁵ and the slope of the line joining these points is equal to the constant, capital-labour ratio.

Full utilisation of the factors of production becomes possible only when they are available in proportions equal to the fixed capital-labour ratio. If the actual factor endowment is given by a point which lies to the right of the line OE, unemployment inevitably occurs because in order to produce output y_1 , OK_1 units of capital and OL_1 units of labour will be used even though OL_2 units of labour exist. In the latter case, L_1L_2 (excess labour) will be unemployed, regardless of the relative factor prices of labour and capital. Only if capital could be increased by the amount denoted by FF' could the unemployed labour be absorbed in this sector.

Eckaus believes that technological unemployment may be aggravated if government policy or trade union activity keeps wages artificially high, if there is restriction of innovation to types favouring the capital-intensive sector, and if the rate of population growth exceeds the rate of capital accumulation in the labour-intensive sector. The same results may occur if businessmen in underdeveloped countries believe that they face production functions with constant input coefficients, i.e. with no possibility of factor substitution.

Eckaus, however, introduces a second, relatively more labour-intensive process for production of the same single 'good' (national product). He shows that structural unemployment of the relatively abundant factor will still occur, unless the proportions in which factors are available (factor endowment) fall within a certain limited range. But with labour-capital ratios as high as they are in the subsistence sector of underdeveloped countries, structural unemployment of labour would be extremely likely under the technical conditions assumed. Finally, the effects of adding more processes are considered. Eckaus concludes that if more processes are available to the economy, there may be full employment as long as the proportions of the country's factor endowments 'fall on or within the limits set by the processes...'⁴⁶

The dualistic aspect of the Eckaus analysis can be seen in the following statement:

Suppose that the respective demands for output are such that a large part of the available capital is drawn into the capital-intensive and fixed coefficient sector. The amount of labour which can be absorbed in these sectors is dependent on the amount of capital available. Since capital is a scarce factor, labour employment opportunities in this sector are limited by its availability rather than by demand for output. The relatively plentiful labour is then pushed into the variable-coefficient sector and absorbed there as long as the marginal value productivity of labour is higher than the wages it receives.⁴⁷

A similar view of technological dualism due to the interrelationship between factor endowments and techniques of production was put forward by Higgins, who analyses production functions in an economy with two sectors, two factors of production, and two goods. Although such a model is simplified, it is argued that it approximates reality closely enough to provide significant results.⁴⁸ The two sectors are the industrial sector (plantations, mines, oil fields, refineries, etc) and a rural sector engaged in the production of foodstuffs and other very small industries. As in the Eckaus model, the former sector is characterized by relatively fixed technical coefficients (fixed proportions in which factors of production must be combined), or is assumed by entrepreneurs to be so. The rural sector is characterized by variable technical coefficients where the products can be produced with a wide range of factor proportions. The two factors of production are labour on one hand and capital (including improved land) on the other. The two products are industrial raw materials for export and necessities for domestic consumption.

The production function in the industrial sector can be represented by Figure 2.5. Capital units are measured on the vertical axis, labour units on the horizontal axis.

Points e_1 , e_2 , e_3 , etc represent fixed combinations of capital and labour that would be used to produce outputs z_1 , z_2 , z_3 , etc. Solid line curves z_1 , z_2 , z_3 , etc denote a movement up the 'hill' of production to higher

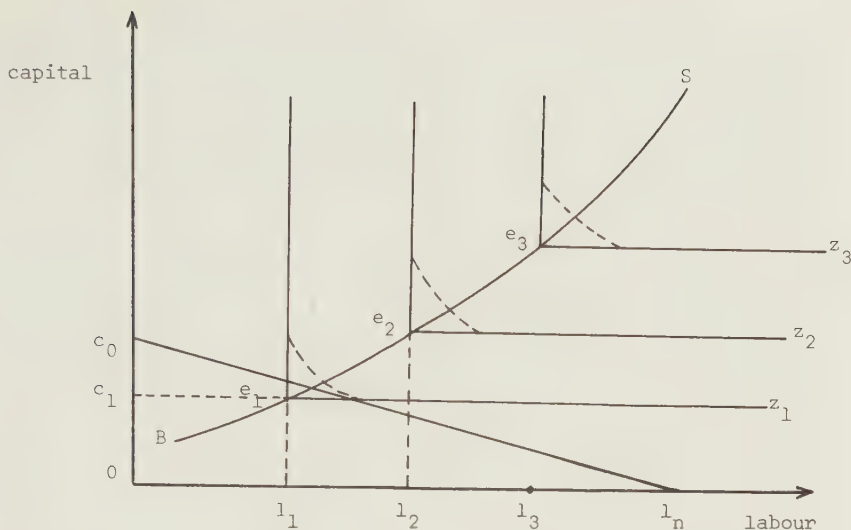


Figure 2.5 The Industrial Sector

and higher levels of output. Line BS is the expansion path of this industrial sector. Output can be increased only by proportionately increasing the amounts used of both factors of production so as to maintain these proportions. (Higgins states that some production processes, such as petroleum refining, actually come very close to having fixed technical coefficients.)⁴⁹ The industrial sector of underdeveloped countries is also characterized by a high capital intensity. Relatively large amounts of capital and relatively small amounts of labour are used. Thus to produce an output z_1 , this sector will use $0c_1$ units of capital and $0l_1$ units of labour. If the actual labour units in this sector were at $0l_2$, l_1l_2 labour units would remain unemployed or would have to seek employment in the rural sector irrespective of the relation of wage rates to capital costs. As more capital is made available through time, more labour will be employed and output will be increased.

However, employment increases relatively little as investment and output in the industrial sector expand along the expansion path (BS). As in the Eckaus model, technical coefficients are thought to be fixed by entrepreneurs. Perhaps the coefficients are actually less fixed than

entrepreneurs think, but if the latter do not look for alternative techniques which are more suited to the factor endowment, the effect may be the same as if coefficients were technologically fixed. The dotted lines in Figure 2.5 denote a situation in which there is actually some flexibility in factor-proportions. But as the diagram shows, small changes in factor endowments (and in relative prices of factors of production) would not bring much change in technique even if entrepreneurs learned that the production function resembled the dotted lines rather than the solid ones. Only if large differences in factor endowments (and prices), such as that indicated by line c_{0n} existed and were recognized by policy makers could a more labour-intensive technique be used.

Figure 2.6 represents a production function for the rural sector. The vertical and horizontal axes are the same as in Figure 2.5. The rural sector coefficients are variable i.e. a wide range of techniques and combinations of labour and capital will produce the same output. The proportions actually used will be in accordance with the factor endowment (and the relative prices of labour and capital). In this case capital includes improved land.

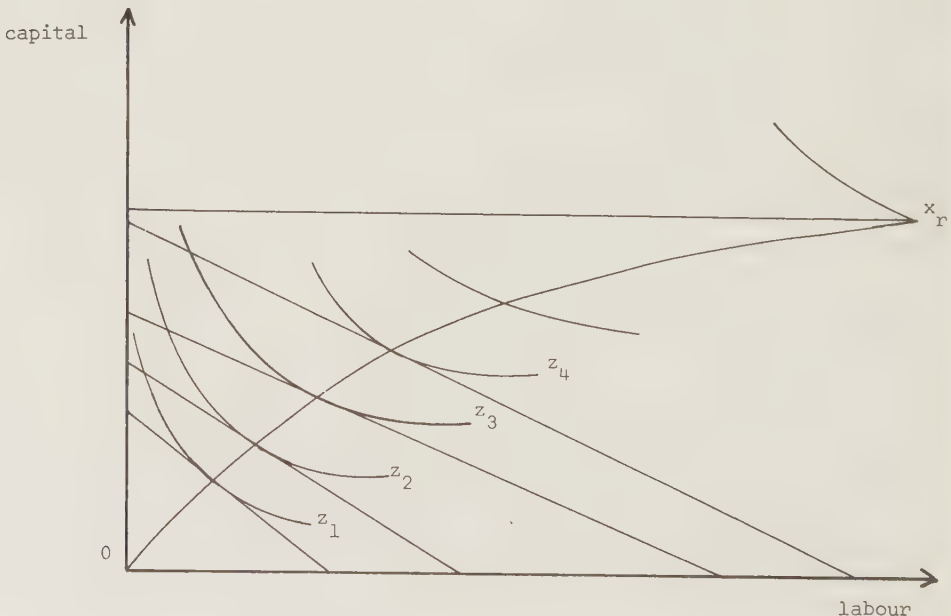


Figure 2.6 The Agricultural Sector

Let us imagine that we begin with production at z_1 both in the industrial and rural sectors. In time capital flows into the industrial sector, mostly from abroad. But in some countries and at some periods the rate of population growth considerably exceeded the rate at which capital accumulated in the industrial sector,⁵⁰ thereby giving rise to population explosion.

Because of the actual or accepted technical coefficients in the industrial sector, the rate at which employment opportunities occurred was slower than that at which population grew. Thus Higgins concludes 'Far from bringing a shift of population from the rural to the industrial sector, industrialization, after its first impact, may even have brought a relative decline in the proportion of total employment in that sector.'⁵¹ This meant that the increased population had to seek a livelihood in the variable-coefficient sector. At the beginning of the expansion process factors of production were more or less equal to one another. Thus, for a while the response to population growth was to bring additional land under cultivation, so that the ratio of labour to land could be kept relatively constant. Lack of other forms of capital in the rural sector made for relatively limited amounts of land to be effectively worked by family-farm units. The increase in output from z_1 to z_3 can be assumed to have taken place during the early period of expansion when an 'optimal' combination of labour and capital (mostly improved land) could be maintained. But as good land became scarce the ratio of labour to capital rose steadily and since technical coefficients were variable, techniques in that sector became increasingly labour-intensive. The rising labour-land ratio culminated at point z_r , when all land was already 'cultivated by highly labour-intensive techniques and the marginal productivity of labour fell below zero even with the most labour-intensive techniques available; with continuing population growth, disguised unemployment began to appear.'⁵²

The tendency towards disguised unemployment in the rural sector is enhanced if technological progress in the economy is labour saving. Secondly, this tendency can be aggravated if wage rates are kept artificially high by trade-union activities or by government policy. If industrial wages are high in relation to labour productivity, labour-saving devices will be encouraged and these will in turn diminish the capacity of the modern sector to absorb the increasing labour force. A high man-land ratio in the rural

sector is virtually a sign of 'unlimited' labour supplies in the economy. Dualism also manifests itself in the often advanced techniques and high productivity trends in the industrial sector, while in agriculture techniques are labour-intensive and simple and productivity is extremely low. The exponents of technological dualism propose that 'the only way to overcome redundancy of labour in the rural sector is to increase the supply of the scarce factor.'⁵³ Higgins says that the immediate scarce factor is land. The marginal productivity of capital can only be raised if the ratio of land to capital is increased a great deal.⁵⁴ But since the labour force in the rural areas will have to be displaced and attracted into the modern sector, large amounts of capital will be needed as well. Higgins concludes that industrialization has to be stepped up simultaneously with a program of agricultural revolution.

Neo-Classical Dualism

The neo-classical approach to the development of a dual economy was originated by Dale Jorgenson.⁵⁵ His version of the dualism approach also assumes the existence of an advanced or modern sector alongside a traditional sector which may be (suggestively) denoted agriculture. Production in each of the sectors may be characterized by a function relating output to land, labour, and capital, but as in classical dualistic theory, Jorgensen asserts that a special characteristic of the theory of dualism is the asymmetry of the production functions. Output in the traditional sector is a function of land and labour alone. There is no capital accumulation except where investment takes the form of land reclamation. Output in the modern sector is a function of labour and capital.

However, as we have seen, a fundamental assumption in classical dualistic theory is that there is a point at which the marginal productivity of labour in the traditional agriculture is zero. Lewis, Ranis and Fei⁵⁶ used this assumption to explain the notion of disguised unemployment where if the labour force exceeds the quantity at which the marginal productivity of labour is zero, labour is available to the modern sector without loss of agricultural output. In Jorgenson's neo-classical theory of development of a dual economy this classical assumption is dropped, and instead it is assumed that the marginal productivity in the agricultural sector is always positive, and that labour is not redundant. The neo-classical theory is

characterized by the assumption that production functions in agriculture and manufacturing industries shift over time so that a given bundle of factors will generate a higher level of output at a given time than at an earlier date.⁵⁷ The autonomous shifts in the production function corresponding to technological changes are assumed to be neutral.⁵⁸

However, Jorgenson's theory hardly succeeds in breaking away from the classical assumption of the existence of a labour surplus and consequent subsistence wages. The theory seems to be caught up in the Malthusian population thesis and the low level equilibrium trap.⁵⁹ A standard explanation of the low level equilibrium trap focuses upon the rate of the increase of population up to a certain point as per capita income rises in relation to a given rate of technological progress. Given some rate of technical progress and population responsiveness to the income level, there is a level of income per capita at which it is necessary for the economy to pass for the growth of output to exceed the rate of population increase. The analysis also borrows from Malthus' 'progressive state' in which production per capita is somehow raised above bare subsistence,⁶⁰ and where if agricultural output per head exceeds that level above which there is surplus for sale, withdrawal of part of the agricultural labour force to the production of manufactured goods is possible without a reduction in the rate of growth of the population.⁶¹ The Jorgenson theory will only be discussed briefly because, as will be seen, it is not quite relevant to our case.

Criticism of the Conventional Dualism Theory

As the preceeding discussion shows, the dual economy models have a wide range of specifications since different writers have made use of different assumptions. Thus, any criticism of the theory cannot be of much benefit if levelled against the dual economy theory as a whole. Such was e.g. the handling of the theories of dualism by Keith Griffin,⁶² in which the dualistic models of growth were lumped together and criticised. For our purposes we shall look into these theories individually, paying more attention to the classical theory since it forms the central and most surviving part of dualistic theory in economic development.

The earlier model of sociological dualism originated by Boeke has been criticised extensively in the literature. The most comprehensive criticism of Boeke's social dualism has been advanced by Higgins,⁶³ who strongly refuted Boeke's main idea that economic development of any kind is hampered by limited wants. Higgins argues that while there may be an element of truth in saying that the people of underdeveloped countries may not have efficient ways of raising their standards of living by their own efforts or enterprise, it is definitely not true, especially in Indonesia, that people cannot envisage a standard of living higher than their own or that they could think of no satisfactory ways of spending increases in income.⁶⁴ The notion of the 'satisficing peasant' who does not respond to economic incentives so that he is characterized by backward slopping supply curves of effort and risk taking has been conclusively refuted by empirical evidence reflected in the literature.⁶⁵

Boeke's analysis may also lend itself to defeatism. He concluded, e.g. that the process of social disintegration in dual societies cannot be reversed 'because it is not possible to transform the operating forces into the opposite of what they are. The contrast is too all-inclusive, it goes too deep. We shall have to accept dualism as an irretrievable fact.'⁶⁶ Boeke suggests that any industrialization or agricultural improvement must be 'a slow process' and that it must be adapted to a dualistic framework. The obvious policy conclusion from such a suggestion is the perpetuation of dualism. Boeke's insistence on 'slow evolution' and 'village restoration' is not only defeatist but also dangerous because it is precisely 'slow' evolution that cannot succeed in the face of all obstacles.⁶⁷ In contrast to Boeke's conclusion that eastern society cannot be changed by western social theory, Higgins argues that dualism is not essentially social, but economic and technical, and that the economic problems of dualism can be solved by economic and technical assistance of the kind the West can provide.⁶⁸ It is said that sufficient and large amounts of technical and capital assistance in combination with technological progress of a non-labour-saving type can provide a solution to the problem of underdevelopment, and that there is a good chance that social and cultural obstacles may disappear without necessarily being attacked directly. This result will be attained only if large amounts of assistance are provided which can turn the disguised unemployed labour into an asset.

However, given the resource endowment pattern in the underdeveloped countries and the policies often pursued, there is a greater likelihood that the flow of capital would favour the relatively capital-intensive modern sector. Therefore, dualism could be enhanced if capital inflows cannot absorb all the labour force in the modern sector such that some of it is forced into the subsistence sector (where there are variable technical coefficients). However, the Eckaus-Higgins models could not affect the disguised unemployed labour which is largely located in the subsistence sector. The massive capital amounts envisaged in Higgins' model for deployment in the agricultural sector, have not been forthcoming at least for most underdeveloped countries.

The remaining part of the criticism will be devoted to the Lewis model of classical dualism, and to a lesser extent, also to the neo-classical model. (No space will be devoted to the Fei and Ranis model since our interest in this dualistic model was limited only to the conditions of the turning point.)

Since the publication of Lewis's celebrated paper in 1954, the economies of many underdeveloped countries have been transformed more or less along the following lines: First, the distribution of income has tended to become more unequal with the share of wages in the national income falling, while the combined share of profits and rents has risen.⁶⁹ Given the level of inequitable distribution in the ownership of productive assets, this pattern of the distribution of incomes led to increased inequality in the household distribution of income. Second, the share of national income devoted to savings has gone up, and with it the rate of capital formation.⁷⁰ Third, in the majority of underdeveloped countries there has been a sharp acceleration in the rate of growth of output. Fourth, there has been little improvement in the standard of living of the people remaining in what Lewis called the subsistence sector of the economy. There is evidence, particularly in Asia, and some parts of Africa where the proportion of population in poverty, at least in the rural areas, may have risen and their standard of living fallen.⁷¹

As Keith Griffin and Jeffrey James have recently stated, all four of these tendencies can be understood, at least in part, in terms of the Lewis model.⁷² Other contributors to The Manchester School journal of September 1979, commemorating the 25th anniversary of the publication of the original Lewis paper, are also in agreement that the Lewis model has retained its place in the literature in spite of massive criticism. Most of the criticism has been a mixture of the policy prescriptions with historical analysis of the type which is wide-spread in development economics. The place of the model in development economics has been succinctly summarized by P.F. Leeson as follows:

... progress in the subject has not been such that the Lewis model has ever dropped out of discussion, nor has it quite been elevated to the status of respected, but superseded, founding contribution - though it sometimes seems to have suffered the fate of such contributions in being read only in secondary and not always accurate accounts.⁷³

As seen above, on the general level, the optimistic outlook of the Lewis model assumed that the constancy of wages will lead to high and possibly rising rates of the profits in the national income as capitalists' savings are reinvested and further capital accumulation takes place. There has been a sharp rise in the rate of the growth of output. But the distribution of income has tended to be more unequal with the share of wages in the national income falling. This may be interpreted as exactly what the Lewis model predicts, since the model does not necessarily involve an equalisation of the existing distribution of income as the rising capitalist incomes can be accompanied by a declining share going to the landowning class.⁷⁴ Thus, there has been little improvement in the standard of living of the people in the subsistence sector of the economy. Lewis has argued that his model is not normative: it describes what has happened. However, this negative distributional consequence for the subsistence sector is the bone of contention in the model. Most of the critics of the dualism theory attack the state of mind present in most of this theory, particularly the encouragement of large-scale enterprise and the neglect and the lack of adequate goals for the small family enterprise in the subsistence sector. The critics are also at variance with interpretations which take the dualistic structure of the economy as given, and 'conveniently ignore the forces which stood to

gain from dualism - the metropolitan enterprise and a privileged minority ... the exploitative characteristics of dualism are quite insufficiently stressed in the literature.'⁷⁵

The policy implication of the model appears to be that industrialization could be accomplished without the need to pump extra resources to the agricultural sector so that rising inequalities are inevitable in the process. On the contrary, say the critics, it is urgent that priority should be given to agriculture and small-scale enterprise, thus leading to greater equality and a more speedy eradication of poverty. This criticism seems vindicated by the evidence from the overwhelmingly stagnant and economically irrational traditional sector indicating that there exist great possibilities for increasing rural output if farmers are given cheap inputs, better prices for output, and appropriate institutional reforms. However, it ought to be mentioned in this context that Lewis himself noticed the unfavourable distributional consequences of the forces that stood to benefit from dualism, but his model neglects the subsistence sector, relatively speaking, and focuses on the behaviour of the modern sector.

Lewis made several qualifications and challenged his critics to go back and study his model with greater care,⁷⁶ but despite this and the persuasive force of the model itself, as far as policy is concerned, the predictions are along the lines asserted by the critics.⁷⁷ However, Lewis was fully aware of the need to improve the lot of the peasant and 'has written extensively about the need for this, and about the fact that industrial revolutions have often depended on a simultaneous or prior agrarian revolution.'⁷⁸

In addition to the criticism of the policy implications of the model, there is some criticism as to the functioning of the model. This has focused on the assumption of zero marginal productivity of labour so that the labour transfer can take place without loss of output in the subsistence sector. Lewis has in mind that the marginal product per man could be zero, while the marginal product per man-hour is positive.⁷⁹ Thus, if the marginal productivity of labour rose as labour transfers took place, then the wage level ought to rise too. But since according to Lewis population growth in the traditional sector helps to negate the rise in incomes; and the link between the subsistence income and capitalist sector wage is flexible, a small wage rise in the subsistence sector need not automatically cause an upward movement in the latter.⁸⁰

The link between the industrial wage and the subsistence sector income has always been a major difficulty in the Lewis model. Thus, in the recent article The Dual Economy Revisited, Lewis agrees that his model sheds little light on the question of the great size of the wage gap in some countries in the face of large numbers of job seekers - one of the pull factors attracting migrant labour. 'The flow to the towns - growing at about 5 to 10 per cent per annum - is everywhere larger than it needs to be because development is (wrongly) concentrated in the towns at the expense of the countryside, and because the wage differentials are too wide.'⁸¹ In spite of this criticism, Lewis's contribution was that the conventional wage was not based directly on subsistence needs but rather on the alternative standard of living available in the subsistence sector. Admittedly, the modern sector wage is also determined by productivity, by minimum wage laws or by trade union action.

The Lewis model can also be criticised from the standpoint that it portrays a smooth transfer of labour from disguised unemployment in the rural sector to full employment in the modern sector. Admittedly, the original Lewis model did not anticipate a growing un- and underemployment in the modern sector to the extent of the contemporary expansion of the informal urban sector of the underdeveloped countries. To those who argue that the model is capable of analysing the Lewis composite subsistence sector (both the traditional agriculture, and the informal sector), the answer is that in the original optimistic dualism model there was hardly any mention of a potential piling up of the informal sector. Undoubtedly the experience of the reservoir of cheap labour filling instead of emptying as a major experience of the present situation was not anticipated in the model.

Finally, we will briefly turn to the criticism of the neo-classical dual model associated with Dale Jorgenson. As seen in the description of the model, the latter seems to rely on unrealistic and rather restrictive assumptions. First, Jorgenson retained the classical assumption of the asymmetry in the production functions, i.e. output of the traditional sector is a function of land and labour alone (there is no capital),⁸² and that in the manufacturing sector 'output is a function of capital and labour alone.'⁸³ Therefore, the only link between the two sectors is a flow of unemployed

labour from agriculture to industry, since the model permits no flows of capital or savings between the sectors. Jorgenson also assumes that 'savings is equal to total profits in the industrial sector.'⁸⁴

In the neo-classical model the marginal productivity of labour in agriculture is always positive, so that labour is never available to the industrial sector at a constant real wage. In this sense the real wage rises continuously with development. Further, Jorgenson assumes that the entire increase in the agricultural surplus is used for consumption by farm labour, which is highly unrealistic given the land-ownership and tenure arrangements in most of the underdeveloped economies.

Thirdly, the acceptance of the Malthusian population theory may be subject to doubtful, at least according to much of modern demographic evidence. Jorgenson assumes a constant death rate and a birth rate that rises with per capita income. In actual experience, we find that the birth rate behaves unpredictably and that it is the decline in the death rate - related to preventive and public health facilities (and not to per capita income) - which causes the rise in population growth. Thus, though Jorgenson claims to be neo-classical, his acceptance of the consumption adjustment and Malthusian population thesis in this aspect renders his framework a rather distinctly classical cast.

Fourthly, Jorgenson assumes that technological change in agriculture takes place at a constant rate and that all changes are neutral. For instance, that 'so long as there is disguised unemployment population expands at the same rate as the growth of agriculture,'⁸⁵ is also not realistic. As Fei and Ranis have remarked: 'It rules out an important and perhaps more realistic alternative to the consumption - population adjustment mechanism as a method of disposing of the economy's agricultural slack.'⁸⁶

The shortcomings of the theory of dualism seem to be corrected somewhat in the more recent literature. In the latter, there is a tendency to shift from the mainly resources framework⁸⁷ to be more concerned about the mutual interaction between the economy's human agents and the institutional framework within which these agents organize themselves.⁸⁸

In the following section we shall attempt to sketch a theory of dualism which proposes to look into the policies and institutions that create, sustain and benefit from the maintenance of a dual economic structure. A framework for the initial conditions for the creation of dualism will be laid for the ensuing discussion in the remaining chapters.

Dualism Theory Reformulated

The discussion of dualism theory in the preceding section highlights that the main feature of this theory - viewed from the classical approach formulated by Lewis - was the availability of labour at a constant real wage to the dynamic capitalist sector and the consequent generation of surplus in the form of profits in the latter sector. With the assumption that all profits are invested, Lewis drew a picture of a steady process of capitalist expansion, constrained finally by a rise in wages or prices of wage goods so that the terms of trade turned against the capitalist sector. This stylized view of growth provided the framework of those 'dual economy' models which largely focus on the distribution of income inside the modern sector and on the rate of growth of that sector, treating the traditional sector more or less as a backlog in the system. However, in the real experience of the underdeveloped countries, while output growth and capital formation have increased according to the prediction of the dual model, the distributional consequences, especially in the traditional sector, have been a source of much disillusionment. In reply to this disillusionment expressed by many writers, Lewis advises us that 'there is no reason to expect the traditional always to benefit from the expansion of the modern. There are forces working for benefit and forces working for loss; the net result will vary from case to case.'⁸⁹

The Lewis argument not only defends a theory that fails to incorporate the development of the traditional sector, it is also inappropriate if we assume that it is unrealistic to expect a 'trickle down' from modern to traditional sector but that a simultaneous development of both sectors should take place in the economy. In this case the effects of one sector on the other will be of mutual benefit. As noted above, Lewis is himself

aware of the fact that industrial revolutions have often depended on a simultaneous or prior agrarian revolution.⁹⁰

In this section we present the discussion of dualism along the lines indicated by the recent contributions to the theory of dualism by writers such as Myint, Griffin and Lipton.⁹¹ The discussion will be focused on the general level of the theory and its relevance to the actual experience of underdeveloped countries. The aim is to highlight the contribution of this theory in general as well as some of its weaknesses. An attempt will be made to distinguish between the discussion of dualism in general, i.e. along lines reflected in the literature, and our own case of dualism represented by the Rhodesian colonial experience. In the latter case, our aim is to reformulate the approach of dualism theory so that the emphasis is focused on the historical causes and initial conditions of dualism in the economic system. It is hoped that this approach helps the economist, or any other social scientist or the government concerned in reformulating development priorities so that the traditional agricultural sector is brought into the rhythm of growth and development taking place in the modern sector.

One of the usual formulations of dualism has been to depart from the existence of a colonial regime. Under the latter, a dualistic structure was caused by the low wage policies, and the initial forms of exploitation which later became institutionalized. Thus Myint analyzes two variants in which dualism shows up: the gap in interest rates between the often small-scale production units of the traditional sector and the large-scale enterprise of the modern sector, and discrimination in the provision of infrastructure by government agencies.⁹²

Under the typical colonial regime, the extent of unequal access to economic resources was frequently described in terms of the gap in the interest rates between the modern and traditional sectors. A form of financial dualism manifested itself by a markedly higher level of interest rates and a lower level of wages in the traditional sector when contrasted with the modern sector. This pattern of resource allocation mechanism is not only responsible for the large part of differences in factor proportions

used in the two sectors, but may also provide a reasonable explanation of the differences in factor proportions used in the two sectors, without the need to introduce special assumptions of sociological and technological rigidities. Traditionally, financial dualism was often explained by the following two main factors: Firstly, because of the higher risks and costs in lending money on a retail basis to small borrowers in the traditional sector than of lending to well organized larger economic units in the modern sector, one would expect the rate of interest facing the 'unorganized' small borrowers (mostly placed in the traditional rural sector) to be higher than that facing the 'organized' borrowers of the modern sector. Secondly, the gap in interest rates is most likely to be larger the greater the underdevelopment of the domestic credit markets and financial institutions.

Under the colonial regime, dualism was also due to discrimination in the provision of infrastructure: public funds in overhead capital were often directed towards urban centres or those selected areas of large-scale economic activity.⁹³ In the post-colonial period, dualism due to discrimination against the small economic units of the traditional sector is a result of direct government policy in most of the underdeveloped countries. This is particularly the case if a 'cheap money' policy is adopted as a means to expand domestic industrialization. An excess demand for loans (usually at a rate above the volume of domestic savings) is further enhanced by artificially low interest rates.

Confronted with the disequilibrium situation of the type described above governments react by setting up a network of direct controls for rationing the scarce capital and foreign exchange resources between different economic units. This rationing process may adversely affect the small economic units outside the modern sector. Even if the government policy was neutral, the established large firms would still be better placed than the small economic units in terms of obtaining resources, given the ability of the former to deal more effectively and in close proximity with the government bureaucracy. But there is substantial evidence that many governments do not exhibit a neutral policy but often encourage large-scale economic units and the public sector. Thus, government industrialization policies may directly contribute to the state of unequal accessibility of economic resources and thereby to dualism.

The notion of skewing of resources away from the traditional sector has been forcefully asserted as urban bias in Michael Lipton's book Why Poor People Stay Poor.⁹⁴ Central to Lipton's argument is that the struggle for resources is between the urban and the rural sector, and that the former exploits the latter in a variety of ways. Lipton argues that urban bias rests on convergent interests between the urban workers, urban employers and big farmers. All are supposed to benefit if agriculture gets squeezed as long as its resources are taken care of by subsidizing the big capitalist farmers in order to produce cheap food and raw materials for the cities. In this way, the urban elite is able to 'buy off' the rural elite of big farmers largely by means of subsidized inputs.⁹⁵ This steering of resources, subsidies and legal advantage towards the big farmers - who alone produce substantial surplus - is frequently done at the cost of the small farmers.⁹⁶

It is further argued that this rural-urban misallocation has a devastating impact on efficiency and equity, since the small farmers are more efficient than big farmers. This is because the small farmers have little land and much underused family labour so that they tend to complement any extra development resources received, particularly foreign aid, with much more extra labour than do big farmers.⁹⁷ Thus, the small farmers, in yielding a given product, use less land resources and more of the increasingly plentiful labour, than do big farmers.⁹⁸

The Lipton rural-urban bias is presented as a general case explaining almost all forms of inequality, from regional inequality between East and West Pakistan (before the emergence of Bangladesh) to inequality in Brazil, racial inequality in South Africa,⁹⁹ and inter-generation inequality, in as much as adult males are more heavily represented in the urban areas. However, this sweeping statement in explaining inequality is quite unsatisfactory. In a review of Lipton's book, T.J. Byres has noted that in an endeavour to find a general applicable statement of urban bias, Lipton flashes many underdeveloped countries, often with comparatively different experiences in the extent of urban bias and reduction of inequality.¹⁰⁰ In this sense Lipton ignores the necessity to explore the historical roots of urban bias, to identify the reasons for its relative strength in some societies and weaknesses in others so as

to examine the conditions necessary for its eradiction. In an unconvincing fashion Lipton also dismisses the argument that differences in the nature of the development of capitalistic structure or the impact of colonialism or neo-colonialism influence urban bias.¹⁰¹ Byres corrects this view in the following observation:

The nature of the mode of production and the impact of colonialism and neo-colonialism do matter. A comparison of inequality and its treatment in say, India and China shows this only too clearly.¹⁰²

The lack of finding the root causes of urban bias in the Lipton analysis can be seen in his proposal to eliminate this state of inequality through 'outside education' so that urban politicians, students and thinkers as long as they are sympathetic to the cause of rural development should to some extent detach themselves from their tendency towards urban bias and involve themselves directly in the problems of rural life by visiting, learning and explaining. This should be reinforced by a programme of 'ruralising' politicians, planners, bureaucrats, professors and visiting experts, especially from the United Nations and the World Bank who should spend some few weeks a year in the field acquainting themselves to the problems of the poor.¹⁰³ Urban trade unions should be persuaded to adopt an expansionist strategy and open their membership to the low wage strata. Urban firms should be persuaded to buy up land and let it out at reasonable rents in small plots to highly productive poor peasants.¹⁰⁴

Looking specifically at the problem of efficient utilisation of under-employed labour it is necessary to expand agricultural production rapidly as this is a prerequisite for a larger transfer of labour to other occupations.¹⁰⁵ A shift of resources to the rural sector, and within the latter, to the rural poor, would tend to raise productivity per hectare which in turn raises productivity per man and contribute to the overall solution of the problem of employment.

Techniques which merely raise productivity per man may contribute to a higher surplus of agricultural products being available to the urban areas, which would make it possible to augment employment there, but at the same time would increase unemployment in the rural areas. Such would

be the consequences of establishing large-scale mechanised farms.¹⁰⁶ But it does not seem that this can be done within the generalized Lipton framework because of a lack of understanding of the specific historical causes of urban bias in his analysis. Elimination of dualism at the national level must take into account the specific conditions of the development of dualism. The latter methodology can be seen in the works of Griffin, who has written quite extensively on conditions for the creation of dualism due to land concentration and imperfection in other factor markets.¹⁰⁷

Land concentration prevails even in countries where population densities are not high. Cases can be found where 5 per cent of those active in agriculture possess 60 per cent or more of usable land.¹⁰⁸ In addition to pointing to land concentration Griffin also suggests that growing inequalities in development could be traced to other factor markets. As will be seen in Chapter 7, this affects the allocation of resources, especially the agricultural methods of production, the readiness to innovate and the distribution of income. This high degree of market imperfection is usually explained by immobility of resources, poor means of communication and sparseness of information. But probably the two most important reasons are government policies which are systematically biased in favour of certain groups and monopoly power in the hands of the relatively wealthy and prosperous members of the farming community.

Under conditons of land concentration and general shortage of resources there is usually a high correlation between monopoly of land and higher productivity on one hand, and a shortage of land and low productivity on the other. This in turn increases inequality and allows large land owners to exert influence over the labour market as well. In this sense, 'monopoly of material resources may give the landlords monopsony power over labour',¹⁰⁹ which enables landlords to exploit labour by fixing the wage rate below what it would have been in a fully competitive market. In other words, an unequal distribution of land ownership, a defective tenure system, and privileged access to the market may combine to give big landowners monopsony power over labour, and where this occurs the result would be lower wages and less employment than would otherwise be

the case.¹¹⁰ As will be seen in the chapters that follow, in such economies, an unlimited labour supply is a result of land tenure and market structure rather than, as is often believed, a result of high population densities.

Dualism in the Zimbabwean Case

Our approach to the analysis of dualism in the Zimbabwean case will be based on a historical analysis, i.e. dualism from the standpoint of the historical perspective. Secondly as pointed out in our hypothesis, the dualistic development is induced by policies of the colonial government. Thirdly, in the Rhodesian colonial experience, dualism is explained by events in the land market which form the basis for dualism in the remaining other factor markets.

One of the most important indicators of dualism at the national level is manifested by land concentration in a minority group while the majority of the rural farmers are relegated to small farm holdings. Our methodology is to establish the source and existence of dualism in the land market and thereafter its percolation into other factor markets. The historical roots of dualism that have caused imperfections in these factor markets are to be found in the colonial policies with respect to land, labour and capital, and discrimination in the marketing arrangements of agricultural produce. Specific attention will be paid to the role of government policies and monopoly elements in the hands of the relatively few large-scale farmers. Dualism in these factor markets will be analysed in connection with its consequences on the economy.

The discussion on dualism will be wound up by an analysis of interdependent relations in the economic structure working to pull down the standards of living or per capita incomes of the country's majority. Dualism in the Zimbabwean economy will be shown to have a tendency to be depicted by five interlocking components that interact to create falling incomes per capita in the economic system, viz:

- (1) land alienation policies and discrimination in the provision of infrastructure and services;
- (2) population pressure in the African rural areas and soil erosion;

- (3) low productivity;
- (4) migrant labour, discrimination and low wages;
- (5) falling incomes per capita.

One of the most important factors influencing almost all sectors of the Rhodesian colonial economy was the way in which agricultural development and land policy were related. Land alienation was probably the decisive force in the economic system. Dualism was triggered off by the historical land alienation actions of the colonial settler governments. Land alienation led to a rising man-land ratio. Population pressure of both humans and livestock in the designated African rural areas led to soil erosion. Naturally, the increase in population in a given land area in combination with soil erosion effects made for low productivity in the traditional agricultural sector. Per capita incomes were affected as well since in the African land area man-hours worked on the farm per family member also decreased and off-farm work increased. Thus, the utilisation ratio of farm family labour tended to decline with the decreasing land area, and the result was a gradual creation of a labour surplus in the economy. The stagnant conditions in the traditional agricultural sector and discrimination and dualism in the labour market drove down the wage level of the fast accumulating number of job seekers in the modern sector, and as more labour turned up due to the lack of cultivable land in the agricultural sector, the wage rate was further lowered. It is in this sense that the most important of the five factors listed above appears to be dualism in the land market, a dualism which has direct consequences for the income distribution in the traditional agricultural sector as well as for the incomes earned by African workers in the modern sector.

An analysis of dualism that incorporates its historical causes and effects has the advantage of showing not only the heterogeneity of the sectors in the economy, but also the interdependent relationships between the sectors in the dual economy. As the interdependence of the traditional sector with the modern sector is inevitable, policies that neglect the development of the former have adverse distributional consequences for the country's majority. Secondly, if the modern sector depends on the

traditional sector for a significant part of its food and raw materials, the neglect of the latter sector creates a bottleneck of necessities due to the inelasticity of agricultural production. Thirdly, as the increase in employment implies generation of additional incomes, an increase in food prices becomes unavoidable if no adequate increase in agricultural output is forthcoming. In this sense, the level of agricultural production may set a definite limit to employment possibilities even of a capital-saving type. As Michal Kalecki says: '... the demand for necessities increases, because either the wages of the newly employed will be higher than their previous consumption, or the income of the peasants who remain in agriculture will increase, or both.'¹¹¹

Thus, a policy of expanding agricultural production is necessary in the fight against the problem of underemployment in underdeveloped countries. It is clear from a recent statement by Lewis that he has changed his attitude in relation to his earlier thesis of the possibility of producing a higher output per acre with fewer people on the farm without an improvement in techniques. 'The moral for policy makers is of course not to rely on "trickle down" to benefit the traditional sector, but to attack the problem of that sector directly.'¹¹² Improvement in techniques or organisation or both, becomes necessary so that those transferred to off-farm occupations are fed and for the maintenance of intersectoral balance in development. Thus, given the consumer preferences of the typical worker, the output generated in the two sectors must be such as to prevent a 'shortage' of food or of industrial products.¹¹³

Conclusion

The discussion in this chapter shows that the theory of dualism has been at the centre of development economics for the past 25 years, i.e. since the publication of Lewis's pioneering article in 1954. The recognition of the heterogeneity of the economic sectors in the process of development was an important contribution of the dual models. In the main model, classical dualism as originated by Lewis, the concentration is on the conditions for growth and distribution of income inside the modern sector. The subsistence sector was generally treated as a backlog in the economic system, having the main function of providing labour supplies to the modern sector at a more or less constant wage rate.

In the experience of most underdeveloped countries output growth and capital formation have increased more or less according to the predictions of the dual model. The share of national income devoted to savings has increased. There has been little improvement in the standard of living of the people in the subsistence sector of the economy, since the distribution of income has tended to be unequal with the share of wages in the national income falling, while the combined share of profits and rents have risen. But as seen in this chapter, this adverse distributional consequence of the dual model was also predicted by the Lewis model since the latter does not necessarily involve an equalising of the existing distribution of income. The rising capitalist incomes can be accompanied by a declining share of income going to the members of the subsistence sector.

Most of the criticism of the dual model has been centred on the adverse distributional consequences of the model for the subsistence sector. The principal issue is not to expect a 'trickle down' effect of growth from the modern to the traditional sector, but that both sectors must grow and develop more or less simultaneously. Secondly, though the dual model was presented within a historical framework, the historical roots of dualism in underdeveloped countries as well as the reasons for its relative strength and weaknesses were neglected by the theory. In general dualistic structures were assumed to be given.

As seen in this chapter, the lack of historical content, in the analysis of the causes and effects of dualism is corrected to a certain degree in the works of Keith Griffin who sees the conditions for the creation of dualism as a result of land concentration and imperfections in other factor markets. Government policy and monopoly power in the hands of the relatively wealthy and prosperous members of the farming community are the two main factors that gain from the creation and maintenance of dualism.

In the Rhodesian case dualistic development is based on historical events: the policies of colonial governments and in particular the conditions reigning in the land market. The existence of dualism in the land market forms the basis for dualism in the rest of the economy. In order to aid in the elimination of dualism at the national level the analysis must take

into account the specific conditions that lie behind its development. In our case, the interdependence of the components in the dual structure interact to create falling incomes per capita in the system. This forms the basis of the discussion in the remaining chapters.

1. The term underdevelopment in the relevant literature refers to the generally less favourable indices that characterise the lower level of productive forces of the countries of the Third World - the so called less developed countries (LDCs), developing or underdeveloped. The latter term is connected with the theory according to which these countries have fallen behind in the process of their historical development of 'have lost time and tempo, and consequently are now at an earlier, lower stage of the general process of growth.' (Szentes (1976), p. 131; See also Thomas (1974), p. 25.)
2. Falling real incomes will be shown in Chapter 7.
3. Griffin (1976), p. 5.
4. Ibid.
5. Lipton (1977), p. 75
6. Lewis (1954), (1958), (1972); Ranis and Fei (1961), Fei and Ranis (1964).
7. Griffin (1972), (1974), (1976).
8. Georgescu-Roegen (1971), p. 336.
9. Lewis (1954).
10. Brookfield (1975), pp. 55-56, and Chayanov (1966).
11. Boeke's main work is Boeke (1953), but this can be compared with Boeke (1914), (1942), (1946), and (1954).
12. Boeke (1953), p. 143.
13. Boeke (1954), p. 31.
14. Boeke (1953), p. 4.
15. Ibid.
16. Ibid., p. 40.
17. Ibid., p. 41.
18. Higgins (1956), (1968); See also Griffin (1969) and van Marle (1961).
19. Higgins (1956), p. 104.
20. It is demonstrated that the marginal propensity to consume and the marginal propensity to import were actually high in Indonesia. This demonstrable limitlessness of wants drove the authorities to cut down on imports of semi-luxuries by rigorous import and exchange controls. (Ibid., p. 104).
21. Griffin (1969), p. 22.

22. Schultz (1964), Wharton (1964), Hayami and Ruttan (1971), Reynolds (1975), pp. 5-7, and Helleiner (1975).
23. Lewis (1954).
24. Lewis (1954), (1958), (1972). However, in the recent article commemorating the twenty-fifth anniversary of the publication of his 1954 pioneer paper, Lewis (1979), while retaining all the major assumptions adopted earlier, has renamed his two sectors 'modern' and 'traditional'.
25. Lewis (1954), p. 146; (1958), p. 8.
26. Godfrey (1979), Leeson (1979), p. 204.
27. Lewis (1972), p. 75.
28. Lewis (1958), p. 3.
29. Ibid., p. 18. See also Leeson (1979).
30. Lewis (1972), p. 77.
31. Lewis (1954), p. 148.
32. Ibid., pp. 148-49.
33. Leeson (1979), p. 204.
34. Ibid., p. 198.
35. See Lewis (1954), p. 149; (1958), pp. 22-23.
36. Lewis (1953), p. 23; See also footnote 1 p. 3. In his reply to the criticisms about why he said very little on the preponderant subsistence sector he claims to transform, Lewis says that all his 'model needs is the fact that supply exceeds demand at the current wage (thus) it was not necessary to say anything about the productivity of the marginal units of labour in the reservoir, beyond noting that it must be less than the wage offered by capitalists.' (Lewis (1972), p. 7.)
37. Ranis and Fei (1961), Fei and Ranis (1964), (1966).
38. Fei and Ranis (1966), pp. 6-7.
39. Fei and Ranis (1964), pp. 201-05.
40. Ibid., p. 203. The institutional wage is sustained by non market forces as under competitive conditions the real wage could fall to zero at quality with marginal physical productivity. See Ranis and Fei (1961), p. 537.
41. Lewis (1958), pp. 19-26.
42. Eckaus (1955).
43. Higgins (1956), (1959).

44. Eckaus (1955), p. 540.
45. Curve y_1 denotes an isoquant representing a certain level of output. Output y_1 (as drawn) can only be produced with a unique combination of factors at point a. Curves y_2 , y_3 and so on, stand for higher levels of output with expansion taking place along line OE. Output can only be increased by increasing the use of capital and labour in the constant proportions given by this ray.
46. Eckaus (1955), p. 556.
47. Ibid., pp. 559-60.
48. Higgins (1959), p. 326.
49. Ibid., p. 327.
50. Ibid., p. 328.
51. Ibid., p. 328-29.
52. Ibid., p. 329.
53. Ibid., p. 343.
54. Ibid. The production function is highly discontinuous in this context, so that it is not enough to raise the acreage from say 2 to 3 acres, instead the size must be raised to 20 or 200 acres so that mechanisation becomes possible.
55. Jorgenson (1961), (1967).
56. Lewis (1954), p. 141; Ranis and Fei (1961), p. 30.
57. Jorgenson (1961), p. 312.
58. Under a 'neutral' technological change the marginal rate of substitution between factors for a given output will not be affected by the change. Jorgenson (1961), p. 312, footnote 2.
59. Nelson (1956).
60. For details on the Malthusian population theory and the 'progressive state' see Baumol (1951), p. 13.
61. Jorgenson accepts the Malthusian population thesis rather explicitly: 'The net rate of reproduction is the minimum of the physiological maximum rate and the gross reproduction rate which corresponds to the output of food per capita for the total population less the force of mortality.' (Jorgenson (1961), p. 320.)
62. Griffin (1969), pp. 19-31.
63. Higgins (1956).

64. Ibid., p. 104
65. Hayami and Ruttan (1971), Helleiner (1975), Reynolds (1975), pp. 5-7, and Lipton (1968) for a different notion of the 'satisficing' peasant.
66. Boeke (1954), p. 289.
67. Ibid., p. 293.
68. Higgins (1956), p. 114.
69. Griffin and James (1979), p. 248.
70. Ibid.
71. Griffin (1978), ILO (1977), Griffin and James (1979).
72. Griffin and James (1979), p. 248.
73. Leeson (1979), p. 196.
74. Ibid., p. 200.
75. Brookfield (1975), p. 69.
76. Lewis (1972).
77. Leeson (1979), p. 200.
78. Ibid.
79. Lewis (1972), pp. 79-82.
80. Leeson (1979), p. 200.
81. Lewis (1979), pp. 220-21.
82. Jorgenson (1967), p. 291.
83. Ibid., p. 292.
84. Ibid.
85. Jorgenson (1967), p. 293.
86. Fei and Ranis (1966). For a detailed discussion on the 'technology adjustment mechanism', see Ibid., pp. 14-22.
87. The emphasis on the factor disproportionalities and technological rigidities is essentially a resource allocation framework approach. Thus, it is said that technological dualism can be broken by an 'infusion' of large amounts of capital investment. Higgins (1956), pp. 113-15.
88. Myint (1954), (1971), (1973); Lipton (1977); and Griffin (1976).

89. Lewis (1979), p. 212.
90. Footnote 78 applies here.
91. Myint (1970), (1973); Lipton (1973); Griffin (1972), (1974), (1976).
92. Myint (1955), (1973), Chapter 5.
93. Myint (1973), p. 97.
94. Lipton (1977).
95. Ibid., p. 67.
96. Ibid., p. 97.
97. Ibid., p. 75.
98. Ibid., p. 98.
99. Ibid, pp. 72-73.
100. Byres (1979), p. 217.
101. Lipton (1977), pp. 77-86.
102. Byres (1979), p. 218.
103. Lipton (1977), p. 339.
104. Ibid., p. 336. It is interesting to note that unlike in an earlier work (Lipton(1968:1), p. 142), the author has now done away with land reform as one of the solutions of the rural-urban inequality gap. It is said that the land reform is unpopular with the urban elite because it will cause the rural poor to consume more of the agricultural output and thus reduce marketable surplus. (Lipton (1977), p. 107.)
105. Kalecki (1976), pp. 17-19.
106. Ibid.
107. Griffin (1972), (1974), (1976), (1978).
108. Ibid. (1972), p. 10.
109. Ibid., p. 24.
110. Ibid., p. 25
111. Kalecki (1976), p. 18.
112. Lewis (1979), p. 216.
113. Fei and Ranis (1966), p. 24. For an analysis on the manifestation of disequilibrium in consumer markets resulting from redistribution of income, see Griffin and James (1979), pp. 250-52.

3. LAND TENURE AND DUALISM

In Chapter 2 it was stated that the main task of the present study is to demonstrate that in Zimbabwe dualism had its historical roots in the colonial government policies, and the monopoly power possessed by the large-scale operators and employers of labour in the modern sector. We also stated that the main characteristics of dualism in Zimbabwe are to be found in the land market. Causation runs from imperfections in the land market to imperfections in other factor markets. The purpose of the present chapter is to give an account of the origin of and the initial conditions for the creation of dualism in the economy, and in particular the land alienation policies which gave rise to land concentration side by side with acute shortages of land in the country's rural sectors.

As will be seen the initial conditions for the creation and maintenance of dualism were present already in the foundations of the colonial economy. Under the specific conditions of the entry of foreign capital or colonialism in Zimbabwe, most of the lands hitherto possessed and occupied by Africans were alienated into European areas. This policy of land alienation in combination with the low wage policies of mines and plantations were eventually to form the basis for the creation of a distinct 'modern' sector which came to co-exist and thrive by the maintenance of the low productivity and relatively stagnant 'traditional' sector. Thus, the existing distribution of assets, especially the land concentration in the hands of the whites and the scarcity of agricultural land in the African reserves, was the result of the alienation of African property.

Generous land grants - based on alienation of high quality African lands, coupled with financial protection for the white farmers were given the sanction of law. With the enactment of the Land Apportionment Act of 1930 and the Land Tenure Act of 1969, the practice of land alienation and the division of the country into European and African areas were

also sanctioned by law. The per capita land area occupied by the Africans was a tiny fraction of the European land area. With an increasing population, this led to a rising man-land ratio in the designated African areas.

Dualism was also exacerbated by the allocation of high and low quality land areas so that the relatively poor African farmers were forcibly evicted into the poor arid areas with less rainfall. As will be seen, from an historical perspective, dualism in the Rhodesian economy had its basis on dualism in the land market.

Foundations of the Colonial Economy

The development of dualism in Zimbabwe's land market cannot be fully appreciated without some knowledge of the nature, motivation and methods used in the scramble for land by the advancing European settler community who spearheaded colonialism in the country. In this section we shall show how the colonial system was consolidated and describe the methods used in shaping the emerging land settlement pattern.

The scramble for land following the colonization of Zimbabwe inherited the Cape Dutch system of land tenure under which Europeans were given free hand to peg out their own farms, and also the South African system of 'war and tenure'.¹ As the Europeans spread inwards into the African hinterland, a tradition was quickly established whereby after a defeat of the Africans in warfare, Europeans parcelled out the surrounding land tracts for themselves. The Rhodesian land scramble, however, differs from the South African pattern in its initial aims and context. In South Africa, the settlers needed land for stock-raising and farming. The Rhodesian land annexations were meant to attract settlers whose initial mission was a gold-hunting expedition. The prime motivation for the occupation was the hope of significant gold discoveries and an increase in the European settler population.² As we shall see, the land rights were, therefore, initially held as a speculative asset rather than as a production factor. The members of the Pioneer Column - the para-military force which was organised by Cecil Rhodes' British South Africa Company (the BSA Company) - who had been recruited from all over South Africa were each promised 3,000 acres of land and the right to fifteen gold claims at the end of the trek.³

Secondly, the BSA Company expedition was perpetrated in a commercial and speculative context. To the Company directors and most of the Pioneers, gold claims were more highly prized than land and cattle claims, and indeed most pioneers sold off their land rights to speculators while still on the march to Rhodesia. Immediately after their arrival at Fort Salisbury (Harare) in 1890, the Pioneer Column disbanded and the search for gold and new farms began. By February 1891 (only four months after their arrival), some 7,000 gold claims had been marked off.⁴ But within a short time this turned out to be a fiasco for there was no second Rand in Mashonaland (the eastern part of Zimbabwe which had been occupied by the BSA Company). The settler land rights, on the other hand, had depreciated in value from £100 at the time of occupation to the point whereby April 1893 they were changing hands at only £55 to £60 each.⁵

Because of the relative neglect of agriculture, the settler agricultural economy was characterized by low land values, limited occupation and stagnation, to the point where it was held that there were no more than six active white farmers in the whole territory at the end of the 1892 - 93 season.⁶ This situation turned the Company interests to the conquest of Matebeleland in the hope that perhaps mineral resources there would be greater. Its fertile lands and well-stocked highveld provided an added inducement.⁷

The BSA Company doubled its inducement fund in order to attract volunteers. Everyone taking up arms was promised a free farm of 3,000 morgen anywhere in Matebeleland⁸ and the right to 15 reef and 5 alluvial gold claims. In addition, the cattle loot from the Matebele were to be shared equally, with one half going to the Company and the other half to be shared among officers and men.⁹ But as soon as the settlers had obtained their land rights they began pressing for the right not to occupy them, since their interest lay elsewhere - in the gold claims - and a nominal annual quit-rent of £1 per 1,500 morgen farm fostered the country's long tradition of absentee landlordism.¹⁰ Thus a land glut had been conferred to people whose immediate interest was not occupying the land. This led to intensified speculation in land rights. Within the first month of the defeat of the Matebele, in 1893, land rights changed hands at £75 and even lower, compared with the official price of £450 set by the Company.¹¹

The degree of speculation in land rights can be seen from the fact that out of 948 land rights established after the 1893 Anglo-Ndebele war, only 275 such located farms and 33 unlocated rights remained individually owned by 1899. The balance of 640 located farms and unlocated rights were held in blocks by individuals or under the control of companies.¹² Former volunteers of all ranks disposed of their rights to speculators with eagerness. Those who gained most by speculation in land rights were quasi-aristocrats, speculative companies, fortune hunters, military men and missionaries.¹³

The impact of land encroachment on the property rights of Africans was disastrous. Within a few months of the arrival of the settlers, all the African land, including the whole of their most valued region - the highveld - ceased to be their patrimony and passed into the private estates of white individuals or became property of commercial companies. It then became necessary to demarcate certain areas of the country for the protection of the African peoples.

Thus, the reserves were created with the object of protecting Africans from further European encroachment on their lands. By the Matebeleland Order In Council of July, 1894, the Colonial Office gave authority to a Land Commission which established the first reserves in Matebeleland. In 1898, the Southern Rhodesia Order In Council extended native reserves to the whole country 'within which life of the natives might be continued under protection and control.' The reserves were subsequently entrenched in the 1923 Southern Rhodesia constitution which gave self-rule to the settlers,¹⁴ and since 1967, they have been called Tribal Trust Lands (TTLs). In this sense, the concept of reserves is closely associated with settler colonialism, which deliberately creates a dualistic economic structure with a socio-legal segregation based on reserved land categories, which reached its extreme case in the South African apartheid and the Rhodesian racist systems. A similar view of the dual economy is also to be found in some form (based on class rather than race) in many other underdeveloped countries. But in the latter there are no reserves.

The concept of reserves is also explained by the degree of land alienation where the land left over after the settlers have helped themselves is literally reserved for the native people. In South Africa, the reserves were originally to protect the KhoiKhoi ('Hottentots') whose lands had been transferred into white hands, leaving them with the unpalatable choice of taking up low paid jobs in the white service, going into the reserves (the first of which were created in 1801), or moving into the territory of other Africans.¹⁵ The reserves were later on extended to Africans in Natal and Transkei. The Rhodesian reserves like those of South Africa and to a lesser extent, those of Kenya and Northern Rhodesia (Zambia), were also indicative of the degree of land alienation in these territories. Where massive land alienation did not take place, like in Tanganyika (mainland Tanzania) and Nyasaland (Malawi) there arose no need to create reserves. In these territories the African majority occupied a greater proportion of the country, their land areas being referred to as public land and native trust land respectively.

Going back to the Rhodesian experience, we find that the basis for a dual economy along the racial division of land was laid in the first ten years of colonial occupation. Already by the turn of the century three types of land categories were in existence, viz: (i) reserves - land set aside for the exclusive use by Africans; (ii) land alienated to mines and farms, sometimes occupied, sometimes in the hands of absentee land owners or companies; (iii) unalienated land which the BSA Company regarded as its own until the Privy Council decision of 1918 conferred it to the Crown.

An often misunderstood aspect of the early land alienation is the very nature of these alienations and the immediate purposes they served in the general context of the Chartered Company colonialism. We know that land alienation and creation of reserves were later used 'to prevent the African peasant from becoming a competitor to the European farmer or plantation owner; and to impoverish the African peasantry to such an extent that the majority of the adults would be compelled to work for the Europeans, in the mines or on the farms.'¹⁶ As we have seen these motives are less relevant for the Rhodesian experience in the 1890s. During this initial period the Company and the settlers went wholesale for those

economic activities which were expected to yield quick returns on profit. Gold prospecting and mining fulfilled these expectations, at least during the early years of the BSA Company government administration. For the Company and the settlers land was held mainly as a speculative asset rather than as a production factor. Hence, the early mining activities were not accompanied by European agricultural activity. Instead, an African peasantry was fostered in order to supply the much needed foodstuffs in the mines and towns. However, the growth of African production was soon nipped in the bud when the Company government began to promote settler farming.

The Early Expansion Process

The establishment and early expansion of the mining industry in the colony of Rhodesia was not accompanied by capitalist farming so that an initially favourable market opportunity was created for the emerging African peasantry.¹⁷ The capitalist sector production was largely confined to the branches specializing in the production for export, e.g. mines and, to a lesser extent, certain farms and company owned plantations. But the greater proportion of food production for the mines and towns came from the African peasantry which had emerged in significant numbers.¹⁸ This was confirmed in a report to the Company at the turn of the century in which Africans were described as 'agriculturalists ... /who/ do not view the prospect of becoming miners with any enthusiasm /because/ their present occupation pays ... better, and it is more pleasant life.'¹⁹

Favourable marketing conditions prevailed for the African peasant products, and most of the Africans still remained in convenient parts of some of their ancestral lands though they were already dispossessed of most of these areas. Thus, for a while, the response to population growth was to bring the additional land under cultivation, so that the ratio of labour to land could be kept relatively constant. However, these conditions were soon brought to an end.

First, the mining companies suggested that they should produce their own grain and thus deprive the African peasant of his marketing opportunities and force him to bring into bearing his only other source of income, that

is, his own labour in order to meet his taxes and other cash requirements.²⁰ The crushing of the African peasant production for the market came with the realization by the Company and settlers that Rhodesia had no gold reef to be compared with that of the Witwatersrand. Thence commercial agriculture was seen as an appropriate vehicle in the promotion of greater economic self-sufficiency and diversified production. A 'white agricultural policy' launched an attack on the African reserves in the years 1908-14 with the intention of recovering the best land and make it available for European settlement.²¹ An Estates Department was set up in 1908 with the aim of promoting European settlement and to handle applications for land. The Department of Agriculture was reorganised in 1908 to give technical support to white farmers. A Land Bank was set up in 1912 with a share capital of £250,000, to make credit facilities available to persons of European descent only.²² Bank loans up to £2,000 for the purchase of farms, livestock, and other agricultural equipment were made to white farmers, but no loans were available to black farmers until 1945 when the Land Bank initiated a scheme of advancing loans to farmers in the African Purchase Areas.²³ Because of the alleged lack of collateral among African peasant farmers, the reserves were left untouched by this arrangement.

The white commercially based, agrarian sector was encouraged by generous land grants - stemming from alienation of good quality lands, and by financial protection and close ties with international banks as well as the export markets.²⁴ We shall return to this in Chapter 5 in the discussion of the capital market.

The 'white agricultural policy' led to quick results in shifting the balance of the hitherto largely mining economy in favour of a white commercial agriculture. Thus, in the 1912 BSA Company Director's report to the shareholders it was stated: 'In the early years of the territory the mining industry was the Company's chief care. While this industry continues to receive such assistance as its circumstance requires land today is claiming a much greater share of the Company's attention, and industries connected with it are rapidly gaining ground that capital is available for their support.'²⁵

By this time, commercial agriculture had become sufficiently profitable to attract capital previously employed in the mining industry and after 1912 most of the food requirements of the mines were met by European commercial agriculture.²⁶ In general, the viability of the capitalist sector in both mining and agriculture largely depended on the procurement of cheap (unskilled) labour supplies. Africans could remain in the white areas only as squatters (paying rent or rendering labour services).²⁷ The dominance of the white commercial sector in agriculture was further enhanced by a low land price policy. In order to increase production and appreciation of land values in the long run, the Company initially lowered the price of land.²⁸

On the other hand, the growth of African peasant agricultural production was severely curtailed. During the 1920s a given labour effort in the produce market gave a lower financial return than twenty years earlier.²⁹ Whereas at the beginning of the century, African produce sales accounted for 70 per cent of the total cash earnings of the native population, by 1932, the figure had fallen to 20 per cent.³⁰

A stagnant peasant agriculture within the framework of dualism in the economy had emerged largely as a result of Africans being increasingly evicted from the more fertile lands and from the areas within easy reach of the markets.³¹ At the beginning of the squeeze under the Private Locations Ordinance of 1908, it was estimated that 1,335 Africans in nine districts of Mashonaland and 199 in two districts in Matebeleland moved into the reserves.³²

Many more Africans moved into the reserves in the years 1910-11 as a result of the increasing of tenant rents for those Africans who had opted to remain as tenants on the European farms.³³ In 1912, a number of ranching companies in Matebeleland decided to subject their tenants to grazing fees in addition to normal rents, an innovation which was strongly resented by African tenants. A massive movement of Africans into the reserves followed in the following decades, so that while the total African population was estimated to have risen by 11 per cent in the decade 1915-25, the number of people in the reserves went up by 27 per cent while the number out-

side decreased to 9 per cent.³⁴ By 1925, more than 60,000 people were estimated to have moved into the reserves during the preceding decade.³⁵

The land alienation policies and the consequent evictions of Africans from their lands into the reserves were begun under the BSA Company administration, and when the latter ended in 1923, the long-term seeds of the racial divisions of the land areas were already sown. Thus, from the historical perspective, the initial conditions of dualism in the Rhodesian economy were set in motion under the BSA Company rule. The removal of the African peasants from supplying foodstuffs to the mines and towns and relegating them to the category of the suppliers of migrant labour was effected by the early land alienation policies, which as will be seen, would be further sanctioned by law. Most of the characteristics of the structural underdevelopment of Zimbabwe, which established a pattern of regional and sectoral inequality became relatively fixed and rigid under legal sanction.

The Rhodesian Land Laws

As we have seen the apportioning of land by race began as soon as the BSA Company hoisted the British flag in Zimbabwe. In the period up to 1930 the laws had set aside reserves for the exclusive use and habitation by Africans, but the rest of the land areas were open for purchase by members of all races, although in practice this was not always the case.³⁶ The Southern Rhodesia Order In Council of 1898, Article 83, had stated that 'a Native may acquire, hold, encumber and dispose of land on the same conditions as a person who is not a Native...'³⁷ This condition was, however, removed at the recommendation of the 1925 Land Commission which prepared the stage for the Land Apportionment Act of 1930 and, consequently also laid the foundations for a permanent division of the country into African and European areas. The Land Apportionment Act was the first legal sanction by Parliament to provide reserved areas for whites and blacks throughout the country. The Land Apportionment Act was in force for 39 years, and when it was superseded by the Land Tenure Act of 1969, all the main provisions of the former Act were confirmed. These two Acts form the pivotal legislation on which the whole of the Rhodesian land policies rest.

In this section we shall show how the contemporary dualistic land market structure was actually created historically by the land legislation of the colonial government. As will be seen, it is this dualism in the land market that forms the basis of dualism in the Zimbabwean economy.

Land Distribution under the Land Apportionment and Land Tenure Acts

The land distribution under the Land Apportionment Act broadly followed the division of land which had been made in the 1890s, i.e. during the first decade of colonization. As shown in Table 3.1, the main division in land apportionment is between the European Area and the African Area. The European land rose from 20 per cent of the total in 1911, to 32.6 per cent in 1925, and to 50.8 per cent in 1931. The Land Apportionment Act had, thus, allocated over 50 per cent of the total land area to the whites (3 per cent of the population) and only 30 per cent to the blacks (97 per cent).

Table 3.1 Land Apportionment in Rhodesia 1911-1969
(Per cent of total land)

1911	Native Reserves	22.4%
	European Land	20.0%
	Held by BSA Company	57.6%
1925	Native Reserves	22.4%
	European Land	32.6%
	Crown Land - Unassigned*	45.0%
1931	Native Reserves	22.4%
	Native Purchase Area	7.7%
	Forest, Undertermined and Unassigned	19.1%
	European Area	50.8%
1961	Native Reserves	22.4%
	Special Native Area	11.0%
	Native Purchase Area	8.0%
	National Land	14.0%
	European Area	44.6%
1969	African Area	46.4%
	National Area	7.0%
	European Area	46.6%

* With the Privy Council decision of 1918, the BSA Company held land was passed into Crown land, a category de facto placed under the ownership and control of the 1923 Southern Rhodesia government. See Palmer (1977:1), pp. 133-35.

The European Area also consisted of land which lay waste waiting to be owned or occupied by Europeans - the unassigned land, which was 18.4 per cent of the total area in 1931.³⁸ All the known mineral resources and major transport networks, including all the railways and paved roads were carefully confined to the European Areas, as was a large part of fertile land with good rainfall.³⁹ All urban areas also lay within the European Area. The Undetermined Area, also under European ownership, consisted of 0.1 per cent of total land area, which, if the owners so desired, could be transferred to Africans and become incorporated into the Native Purchase Area.⁴⁰ The Forest Area consisted of land set aside for the development as Forest reserves, more or less as a national asset. The Unassigned land was generally poor and inhospitable land left under the government's jurisdiction to be distributed later among any of the categories.⁴¹

No African was allowed to purchase or occupy land in the European Area. The Land Apportionment Act of 1930 provided that:

- '(a) No African shall acquire, lease or occupy land in the European Area;
- (b) No owner or occupier of land in the European Area, or his agent shall
 - (i) dispose or attempt to dispose of any such land to an African;
 - (ii) lease any such land to an African;
 - (iii) permit, suffer or allow any African to occupy such land.'⁴²

These provisions of the Land Apportionment Act were retained in the Land Tenure Act of 1969. Under the latter Act, an equal amount of land, approximately 46 per cent of the total land area in each case, was allocated to Africans and Europeans. However, since the Africans were 96 per cent of the population, whereas Europeans were only 4 per cent,⁴³ this works out in theory at around 3 hectares for each black person, compared with 60 hectares for a white. ('In practice, most of the European land is concentrated in a very few hands, with huge farms being owned by a comparatively small number of the wealthiest white farmers and businessmen.'⁴⁴ This will be discussed in detail in a latter subsection on 'farm-size distribution'.) Also under the Land Tenure Act an additional 7 per cent of the total land area was designated as National Land, consisting of national parks and game reserves.

The Act states: 'The total extent of all the land in the European Area shall not differ by more than two per centum from one half of the combined extent of both the European and the African Area.'⁴⁵ Thus, the colonial land policies, functioning through legislation, created dualism in the land market with most of the land (on a per capita basis) going to the European Area.

On the other hand the land area occupied by Africans has been severely limited by the same laws. Under the Land Apportionment Act of 1930 the African Land Area was divided into Native Reserves and Native Purchase Areas (later called African Purchase Areas).

The Native Reserves were those inherited from the BSA Company administration within which land was supposed to be held according to customary laws. (Cf. p. 4.) However, administratively the land was no longer vested in the Chief as it was in the traditional system, since the traditional powers of the Chief had been subordinated to those of the European Native Commissioners. Under both the Land Apportionment Act of 1930 and the Land Tenure Act of 1969, powers that gave consent to the occupation and use of land by Africans in the Reserves (now called the Tribal Trust Lands) were vested in the colonial government authorities.⁴⁶

The African Purchase Area was reserved for acquisition as farms by individual Africans, and was regarded as compensation for the loss of the right to purchase farmland anywhere in the country. Africans were only allowed to buy and own land individually in the African Purchase Areas, the purpose of which was to encourage the development of a limited number of cash crop farmers. Thus, only 10 per cent of the total land area allotted to the black majority under the Land Tenure Act of 1969 is made up of African Purchase Areas, while around 90 per cent consists of the Tribal Trust Lands.⁴⁷

Under the Land Tenure Act, the Tribal Trust Lands were occupied communally and farmed on a subsistence basis. Areas in the Tribal Trust Lands could be expropriated from the Africans without compensation in the event of a mining claim being established.⁴⁸ Thus under the law, white mining speculators, who were free to prospect in the Tribal Trust Lands were able to

make compulsory purchase of any area required for mining development.⁴⁹ In such an event, the African farmers were forcibly evicted into other Tribal Trust Lands.

Land and Population Distribution

In the preceding section, it was shown that in Zimbabwe colonial land policies and legislation rigidly divided the country into white and black areas. The economic structure was created historically by the land alienation policies of the respective colonial governments. This led to land concentration in the hands of European settlers and to an increasingly declining land area being occupied by the Africans. Thus, land alienation led to a rising man-land ratio in the African designated rural areas.

In this section we shall show how the historical pattern of land and population pressure in Zimbabwe created dualism in the land market. As will be seen, dualism in the land market was the basis for dualistic development in other factor markets. This is because an increase in population pressure in the African Land Area, combined with soil erosion effects, led to low productivity. Man-hours worked on the farm per family member were to decrease as the African Land Area decreased and off-farm work increased. Per capita incomes were affected in the African rural areas, and the result was a gradual creation of a 'labour surplus' in the economy. In turn, the stagnant conditions in the traditional agricultural sector in combination with discrimination and dualism in the labour market made for lower wages of the ever-increasing numbers of job-seekers in the modern sector, and as more labour turned up for lack of land in the African rural areas, the wage rate was lowered even further. Thus, the roots of dualism in the Rhodesian colonial economy has its basis in the dualism in the land market.

The evictions of African peasants from their fertile land and from lands within easy reach to the markets, had started off during the first decade of colonialism.⁵⁰ This trend had continued unabated up to the 1920s.⁵¹ In the 1930s, 50,000 people were moved into the reserves for lack of other land since the Land Apportionment Act of 1930 had divided land settlement areas on a racial basis. This resulted in overcrowding and overstocking

becoming increasingly apparent in many African rural areas. In some Matebeleland districts in particular, there was an acute shortage of land.⁵² This process continued and accelerated throughout the thirties, so that by 1943, 62 out of 98 reserves were classified as 'overpopulated' by the Department of Native Agriculture and half were carrying an excessive cattle stock.⁵³ Thus, the most dominant aspect of land settlement has been the historical pattern that has resulted from the BSA Company government and land legislations of the colonial governments.

By June 1969, Zimbabwe's population comprised 4,880,000 Africans, 230,000 Europeans and 24,300 Asians and people of mixed race. The African population vastly outnumbered the non indigenous population by over 95 per cent. Europeans constituted 4.48 per cent of the population, while Asians and people of mixed stock were about 0.004 per cent.⁵⁴ It has been estimated that Rhodesia's African rural household population increased at a rate of 4.5 per cent per year between 1965 and 1971, while subsistence production increased by 4.3 per cent.⁵⁵ The subsistence sector could not support the existing population and was thus unable to absorb a high rate of population growth. It became increasingly dependent on imports of food to maintain minimum standards of nutrition.⁵⁶ Many able-bodied adult men migrated into the modern sector as work seekers. Thus, an 'unlimited' supply of labour to the modern sector had been created by dualism in the land market. We shall return to this in detail in the discussion of the labour market in Chapter 4.

The land area distribution in 1973 shows some little change from the 1969 position because of variations of allocation resulting from frequent amendments of the Land Tenure Act shifting marginal land across categories. As of 1973, Table 3.2 shows the division of land by race which gives Africans (96 per cent of the population) about half of the country's total land area, and the other half going to Europeans (4 per cent).

Land concentration in the European Area is further illustrated by population densities in Table 3.3. Thus, while the apportioning of land between African and European farmland was 53% and 47% respectively, their actual population, in terms of the rural population, was in the order of 80% and 20% respectively. The larger African population, however, implied that the

average unit of land available to each African would in practice always be only a fraction of the European land unit, and would continue to diminish as the African population expanded. This is an indication of an artificial creation of population pressure on the African land side by side with areas of sparse population densities in the white rural areas. High population densities in the African area by provinces is shown on Table 3.4. The highest densities are recorded in the Tribal Trust Lands with Mashonaland South and Manicaland provinces leading, and Matebeleland North have the lowest population density. But it should be noted that the latter province lies in the rugged tsetse-fly infested areas which leads to debility in livestock and humans.

Table 3.2 Division of Land by Race as of 1973

Category	Hectares	% of total land area
European Area:		
General Land	15 613 344	40.6%
Parks and Wildlife	1 744 674	4.4%
Forest Area	737 273	1.9%
Specially Designated Land	7 656	.2%
Total European Area	18 132 947	47.2%
African Area:		
Tribal Trust Land	18 217 705	47.4%
Purchase Area	1 486 142	3.8%
Forest Area	172 000	.44%
Parks and Wildlife	255 274	.66%
Specially Designated Land	121 570	.31%
Total African Area	20 252 691	52.7%
TOTAL OF ALL LAND	38 385 638	

Source: Danckwerts (1976), p. 92.

The land alienation policies of the successive colonial governments, therefore, led to dualism in the land market with severe consequences on soil erosion, low productivity, labour migration and falling real incomes in both the African rural areas and the urban sectors. The effects of dualism will be discussed in greater detail in Chapter 7.

Table 3.3 Distribution of Rural Land and Population, 1976

Category of	%	(Population in '000s)			% Population
		African Population	European Population	Total Population	
African Farming (TTL and APA) Land	53%	4440,6	2,3	4442,9	80%
European Farming Land	47%	1089,2	31,9	1121,0	20%
TOTALS	100%	5529,8	34,2	5563,9	100%

Source: Census of Population (1969) Tables 4 and 5; Monthly Digest of Statistics, April, 1977, Tables 1 and 2

Table 3.4 Population Density: APAs and TTLs, 1976

Province	Tribal Trust Lands (TTLs)			African Purchase Areas (APAs)		
	Area km ²	Population	Density	Area km ²	Population	Density
Manicaland	18,982	693,000	36.51	1,428	26,000	18.20
Mashonaland North	25,344	421,000	16.61	2,381	28,000	11.73
Mashonaland South	14,910	565,000	37.89	2,665	35,000	13.13
Matebeleland North	31,045	320,000	10.81	1,484	20,000	13.45
Matebeleland South	24,189	357,000	14.76			
Midlands	27,168	645,000	23.74	3,230	24,000	7.43
Victoria	21,156	734,000	34.69	2,967	37,000	12.47
NATIONAL	162,794	3,735,000	22.94	14,161	170,000	12.00

Source: Nziramasanga (1980), Table 1 (a).

Land Distribution by Natural Regions

Zimbabwe's land quality or rather, the agricultural potential of land, depends on a number of factors, in particular rainfall and soil characteristics. The most comprehensive agro-ecological survey of the country is found in the book by Vincent, Thomas and Stapples.⁵⁷ This survey classified Zimbabwe into five major agro-ecological regions on the basis of climate, effective rainfall, vegetation and soil characteristics. The purpose of the survey was to base land use classification on permanent characteristics and to determine the existing systems of land use.⁵⁸ A synopsis of the major regions and their characteristics is provided in Appendix 3.1.

The agro-ecological regions of Zimbabwe closely follows that of the country's landscapes. The country is divided into three major landscapes: the highveld, the middle-veld and the lowveld.⁵⁹ (Cf. Chapter 1 and Figure 3.1.) Rainfall, but not necessarily land quality, closely follows the country's landscape with the highest rainfall found in the highveld and lowest precipitation in the low lying areas of the country.

Region I lies on the eastern border, predominantly in the Melsetter and Chipinga areas (eastern highlands), and has the highest effective rainfall. The country is often mountainous and cool with a high summer rainfall which is spread for long duration around the year so that dry months may range from 0 to 3. The region is the most suitable for specialized - intensive and diversified farming - beef and dairy farming and plantation crops.

Region II, largely, on the highveld, is the main area suitable for intensive cropping in Zimbabwe. It has a good summer rainfall but winters are dry. There are some dry spells during the rainy season. Large-scale maize cropping and tobacco farming as well as mixed farming are found in this region. Intensive forms of agriculture have developed within easy reach of the towns to satisfy the specialized needs of the urban markets.⁶⁰

Region III, situated in the middle-veld, has a drier and warmer climate than natural Region II. There is greater risk of drought as the rainy

season is relatively short so that more reliance must be placed on drought resistant crops and cattle as the main production. Region III is most suitable for semi-intensive crop production as well as mixed farming.

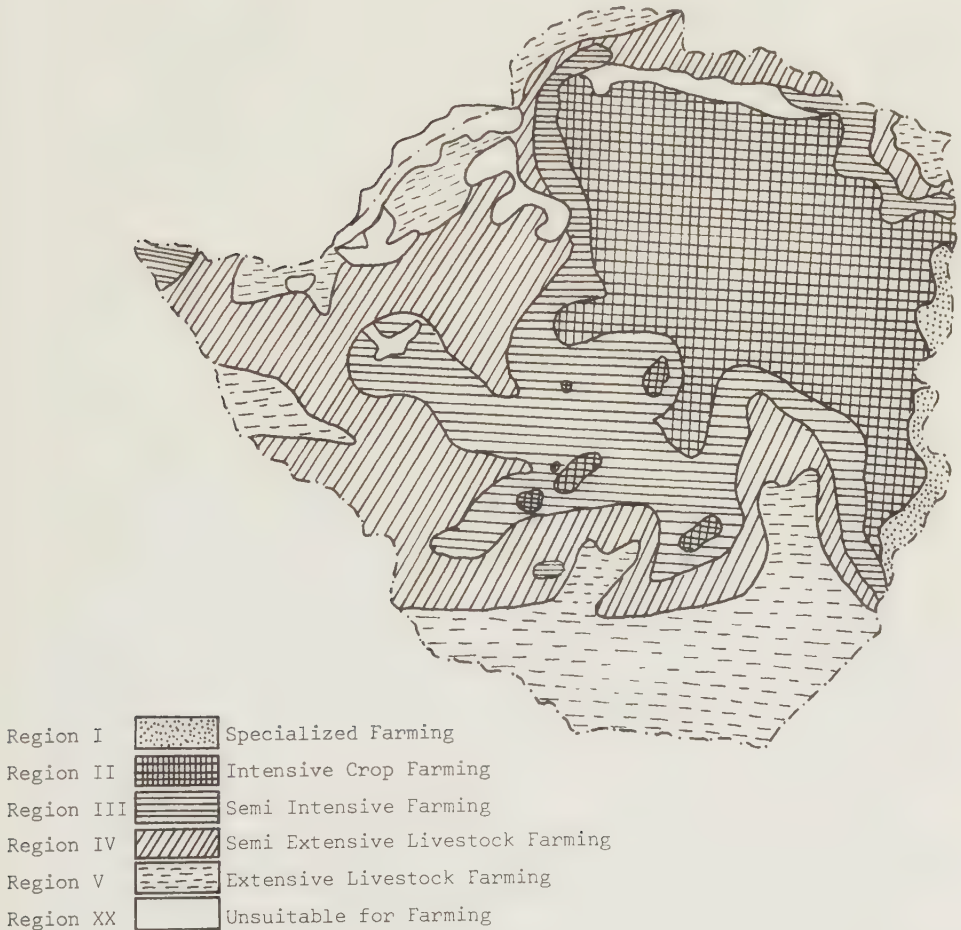


Figure 3.1 ZIMBABWE's NATURAL FARMING REGIONS (after Vincent and Thomas, 1960).

Region IV, in the middle-veld and the lowveld, is only recommended for semi-extensive farming. Rainfall is considerably low and there are frequent dry spells during the rainy season. The risk of drought is considerable for crop production which cannot be recommended without supplementary irrigation, though there is still production of drought resistant staples and cash crops on some suitable sites. Cattle production dominates the agricultural industry.

Region V, predominantly in the lowveld, is only suitable for extensive farming. The incidence of drought is very high and the ecologically dry season is the longest. Cattle ranching is the dominant form of agriculture. Region XX, also in the lowveld, has most of the characteristics of Region V, but is unsuitable for any form of agricultural production.

The fact that this classification is based on effective rainfall makes the feasibility of irrigation and cattle feeding important factors in transforming land from one region to another.⁶¹

The extent of land distribution according to the two racial groups in each natural region is shown in Table 3.5. 38 per cent of the total land area is suitable for crop production (Natural Regions I-III) and approximately 60 per cent is suitable for livestock production (Natural Regions IV-V). The unequal distribution of land most suitable for agriculture is very clear, with 71 per cent of Natural Region I, 69 per cent of Region II, and 45 per cent of Region III being allocated to the European Area. On the other hand, well over 60 per cent of all land allotted to the African Area lies in Natural Regions IV and V. As already shown above, the African peasant farmers were forcibly evicted from their high quality lands into the poorer and dry lands in the low lying areas of the country. In this sense, the inequitable land distribution by race was exacerbated if one took land quality and effective rainfall into account. The land most suitable for intensive agriculture was allocated to European farmers, a group with most of the capital resources, while the land suitable for semi-intensive and semi-extensive livestock production went to the African Area.

Table 3.5 Land Distribution by Natural Region and by Race, 1977
(in hectares)

Region	Total Area	European Area	As % of Region	African Area	As % of Region	National Land	As % of Region
I	613,234	435,411	71%	79,725	13%	98,098	16%
II	7,343,060	5,066,694	69%	1,835,775	25%	440,591	6%
III	6,854,958	3,084,743	45%	2,947,633	43%	882,582	12%
IV	13,010,036	3,642,817	28%	7,025,415	54%	2,341,804	18%
V	10,288,547	2,675,071	26%	5,247,147	51%	2,366,370	23%
XX	1,220,154	24,403	2%	658,883	54%	5,369	44%
	39,329,988	14,929,098		17,794,577		6,606,313	

Source: Based on Riddell (1978:1), Table 7.

The Africans were not only confined to a smaller area in terms of their population, but their resource endowment combined the application of the lowest productivity techniques (as they had no capital) to the poorest endowed resource base. A misallocation of land resulted in the inefficient use of land in the African areas in the sense of soil erosion. It also resulted in lower per capita incomes in the African sector since extensive agriculture must be based upon large units which compensate for lower yields per hectare.⁶² The allocation of land according to natural regions, therefore, directly contributed to dualism in the land market. As the African farmers became increasingly confined to a smaller land area suitable for only extensive livestock production, this might have contributed to even lower incomes and a fast deterioration of the land resource tantamount to soil erosion. This complemented the rising man-land ratio in the African Area described above.

Farm-size Distribution

The preceding discussion in this chapter clearly shows that land concentration was remarkably higher in the European Area than in the African Area. European agricultural land could be purchased on a freehold basis and the farms were owned by both individuals and companies. In recent years there has been a tendency towards small farms joining together to form large

complexes.⁶³ In general there are at present, both large and small individually owned farms and large and small company owned farms, but the distinction between individually owned and company owned farms does not necessarily describe the type of farm, land-use pattern or degree of capitalisation.⁶⁴

The distribution of white farm ownership, however, shows that there was a higher proportion of individually owned farms than company owned farms. Roger Riddell has estimated that well over 70 per cent of the white farms were owned by individuals rather than by companies.⁶⁵ In general, European farms are much larger than African farms. The position of farm sizes in Zimbabwe's commercial agricultural sector is shown in Tables 3.6 and 3.7.

The average area of European farms was 1,365 ha with the largest group of farms ranging from 4,000 to 10,000 ha and over. These large farms were owned by only 10.5 per cent of the total number of white farmers, a category that includes 'corporately owned land'.⁶⁶ 76 per cent of the white farmers own farm units of 2,000 ha and less (i.e. only 23% of the total white land area). 32 per cent of the farmers form a category of small farmers within the white group with farms of 400 ha and below.

Table 3.6 Size Distribution of White Owned Farmland in 1975

Farm sizes in hectares	Land Area '000 ha.	%	Number of Farms	%
10,000 and over	5,692	38.0	216	3.1
8,000 - 10,000	811	5.4	91	1.3
6,000 - 8,000	1,036	6.9	150	2.1
4,000 - 6,000	1,456	9.7	279	4.0
2,000 - 4,000	2,523	16.8	912	13.2
1,000 - 2,000	2,073	13.8	1,473	21.2
800 - 1,000	451	3.0	486	7.0
600 - 800	360	2.4	521	7.5
400 - 600	301	2.0	580	8.4
200 - 400	165	1.1	578	8.3
less than 200	151	1.0	1,652	23.8
TOTAL	15,020	100.0	6,938	100.0

Source: Weinrich (1978), p. 13.

Table 3.7 APA - TOTAL FARM AREA BY SIZE CLASS AND PROVINCE, 1976
(with Rhodesia analysis 1975)

SIZE OF FARM	MANICALAND		MASHONALAND NORTH		MASHONALAND SOUTH		MATEBELELAND		MIDLANDS		VICTORIA		RHODESIA 1975		RHODESIA 1976	
	No. of farms	Area of farms	No. of farms	Area of farms	No. of farms	Area of farms	No. of farms	Area of farms	No. of farms	Area of farms	No. of farms	Area of farms	No. of farms	Area of farms	No. of farms	Area of farms
(Hectares)																
Under 50	531	15,506	26	370	116	4,275	25	937	13	214	61	882	772	22,234	775	22,503
50 and under 100	764	55,423	941	71,676	680	48,920	225	17,768	392	32,393	1105	87,593	4107	313,773	4138	316,275
100 and under 150	791	22,513	312	36,997	285	32,791	266	32,053	420	50,712	572	67,444	2026	262,510	2041	244,128
150 and under 200	41	7,120	102	17,352	188	32,691	84	14,238	132	22,568	144	24,417	691	118,381	692	118,560
200 and under 250	14	3,150	34	7,608	135	30,329	25	5,474	69	15,026	30	6,662	307	58,249	306	68,124
250 and under 300	3	833	25	6,875	63	16,975	14	3,827	36	9,765	15	4,047	156	42,322	158	42,827
300 and under 350	2	626	20	6,510	22	7,145	-	-	11	3,471	5	1,596	60	19,348	59	19,037
350 and under 400	2	747	16	6,000	13	4,975	1	392	16	6,034	4	1,473	52	19,621	49	18,520
400 and under 450	-	-	7	2,947	12	5,087	3	1,258	22	9,403	1	429	45	19,124	41	17,446
450 and under 500	-	-	8	3,863	5	3,803	-	-	16	7,482	2	965	34	16,113	37	17,559
500 and over	1	546	41	34,942	18	11,962	28	38,454	118	91,365	4	2,768	210	180,037	223	183,338
TOTAL:	1549	106,464	1532	195,140	1520	198,953	671	114,451	1245	248,433	1943	198,271	8460	1061,712	8519	1068,317
Average area of farm:	69		127		131		171		120		102		125		125	

Source: Rhodesia: Agricultural Production in African Purchase Lands (1976), Table 17.

The next largest group of commercial farms owned by individuals on a freehold basis are the African Purchase Areas (APAs). The largest APA farms are 500 ha and over, and in 1976 this group was 2.6 per cent of the total number of farms under the APA scheme (Cf. Table 3.7). During the same year the average farm size of the APAs was 121 ha which was 11 times smaller than the average farm size of white farmers. Whilst the average unit of the APA farms is between 50 and 200 ha of land, there appears to be wide disparities in farm sizes and land use within these farms. It has been estimated that 37 per cent of the total land area under the APA scheme was comprised of either 'the unplanned' area (404,965 ha) or vacant farms (188,980 ha).⁶⁷ Thus, the average figure of APA farms hides the actual distribution of farm size. The farms range from 4.05 ha to 809.39 ha with the greater proportion of them being of small sizes (less than 60.70 ha).⁶⁸

The APAs also differ from the European farms in some respects other than size. For example, unlike the white farms which are on average fairly developed in relation to the use of fixed capital assets (dams, irrigation canals, etc), only a few APA farms were satisfactorily developed. Secondly, 'only a small proportion of the farm owners had paid the full price of their land.'⁶⁹ Of the 3,110 APA farmers in 1968, only 2,281 had fully paid for their farms. 2,608 were on their way to obtaining their title deeds, but 3,221 were still on lease arrangement.⁷⁰

However, as already shown earlier, the APA farms only occupy 10 per cent of the land area allocated to the African majority.⁷¹ The majority of the African farmers are the peasant farmers in the Tribal Trust Lands (TTLs). Land holdings in the TTLs have less security than under the European system and the APAs. This is because land is held under 'communal' tenure where grazing land is common and the right to cultivate arable land is allocated by the District Commissioners through the tribal authorities. In principle all members of each community are entitled to a share of the available resources in their area. But in practice this right, claimed by all members of a community, to share in the limited resources in the face of a land constraint, must eventually be incapable of fulfilment in the face of growing human and livestock populations. As demonstrated above, excessive population pressure as a result of rising man-land ratio in the African TTLs has been the main problem in Rhodesia's rural areas.

The peasant farmers in the TTLs have the lowest farm-size distribution in the country. Whilst the farm size distribution in the TTLs varies from area to area, depending on the amount of land available and the respective population densities, the average arable acreage ranges from 2 to 3 hectares per family holding. Thus, in terms of farm sizes, the peasant farmers in the TTLs occupy the smallest farms. As will be shown in Chapter 7, the distribution of land-ownership - an institutional variable - can be central to an understanding of the pace and consequence of technical innovation in an agrarian society. Further, a 'surplus' labour is created, in the sense that the majority of the working population are confined to tiny holdings in agriculture, where their productivity is low. Thus 'surplus' labour, however, contrary to the unlimited supply of labour in most dual economy models and in particular in the classical dualism theory discussed in Chapter 2, is in fact the product of under-utilisation of land and capital assets. This type of dual economy produces not only inequality in income distribution but also low output and inefficiency in the use of land resources.

Conclusion

The main conclusion in this chapter is that the existing structure of the distribution of landed wealth in Zimbabwe owes its origin to the historical process of colonial land policies. The chief characteristic of dualism in Zimbabwe's agricultural economy is manifested in the concentration of land among the country's whites and the depressed tiny holdings of peasant agriculture in the Tribal Trust Lands. Thus, this dualism in the land market has a historical origin. The African peasants were forcibly evicted from their good quality lands and resettled into the designated African reserves (later called Tribal Trust Lands). These land alienations began during the early years of the BSA Company colonialism, and continued unabated after the direct Company rule had ended. During the 1930s, the division of the country into the African and the European Areas was also given legal sanction.

The African land area dwindled over the years so that by the 1930s and the early 1940s, population pressure of both humans and livestock was reported in many reserves. The declining African farming space both in terms of total land area and in terms of farm size meant that the number of man-hours worked on the farm per family member decreased, and off-farm work or job

seeking increased. This was exacerbated by the fact that African rural areas were for the most part situated in the more arid areas of the country only suitable for extensive cropping and cattle ranching. This was in contrast to the areas allocated to European farmers in the highveld, whose farming areas were suitable for intensive cropping, and mixed farming.

As we will see later, population pressure in the African rural areas led to soil erosion and stagnation. It also resulted in the lower per capita incomes in the African sector, and a gradual creation of labour 'surplus' since the majority of the working population was limited to tiny holdings in the Tribal Trust Lands and their productivity was low. The dualism in the land market was the basis for dualism in the rest of the economy. This point will be shown in the discussion of the remaining chapters of the study.

1. Lundahl and Ndlela (1980), p. 110.
2. Flint (1974), p. 131.
3. Ibid., p. 130.
4. Palmer (1977:1), p. 25.
5. Stigger (1971), p. 12.
6. Ibid.
7. Palmer (1977:1), p. 28.
8. One morgen = 2.1 acres = 0.85 hectares.
9. A figure of 30,000 cattle was entered in the books of the Native Commissioner as a figure representing cattle taken 'for the use of settlers' (sic) before the final distribution in December 1895 in which the Company helped itself to an additional 35,000 head. (Stigger (1971), p. 20.) A great number of these cattle were absorbed by the Kimberly and Rand mines cattle markets in which the volunteers sold much of their share of the loot. (Ibid.) Stigger also observed that it is quite likely that the number of stolen cattle was underestimated.
10. Palmer (1977:1), p. 35.
11. Stigger (1971), p. 14.
12. Ibid.
13. Among the military men, Major Sir John Willoughby who was seconded from the Royal Horse Guards to act as chief of staff in the Pioneer Column accumulated 7.3 million acres for his own Willoughby Consolidated Company. He was also allotted 8,850 head of the Ndebele cattle by the Loot Committee. (Palmer (1977:1), p. 36.) Of the fortune hunters, Dunbar Moodie virtually became a feudal lord of the Melsetter District where he carved a huge estate of over 60,000 acres together with a large head of cattle. (Ibid.) By the turn of the century, missionaries had also carved for themselves around a quarter of a million acres, with Catholics taking nearly half of this amount. Naturally, the missionaries had to insulate themselves morally while grabbing land. As Palmer notes: 'Knight Bruce, the Anglican Bishop of Mashonaland argued that the mission lands were intended as native reserves in case Africans were squeezed off their lands.' (Ibid.)
14. Rifkind (1972), p. 55.
15. Davenport (1969), p. 293.
16. Woddis (1960), p. 8.
17. Phimister (1977), p. 255; Arrighi (1970), p. 207.
18. Phimister, Ibid.
19. Ibid.
20. Ibid.

21. Palmer (1977:1), p. 80.
22. Ibid., p. 89.
23. In Rhodesia Africans never had loans to start new farms. The 1945 scheme stipulated that the borrower must have completed a three year probationary period in taking over a new farm and the loans were limited to permanent improvements only and could not exceed two thirds of the value of the property. (UN (1963), p. 36.)
24. Clarke (1980), p. 19.
25. BSA Company (1912), p. 34.
26. van Onselen (1976), pp. 41-42.
27. Palmer (1977:1), p. 185.
28. In 1908 land in Rhodesia was sold for $8\frac{1}{2}$ d. per acre for ranching land and 3s. 9d. for agricultural land, which compared with a price of 30s. an acre in the Cape. (Riddell (1978:1), p. 11; See also Palmer (1977:1), p. 82.)
29. Arrighi (1970), p. 216.
30. Ibid.
31. Palmer (1977:1), passim, and Weinrich (1975), p. 20 and 30.
32. Palmer, Ibid., p. 96.
33. Ibid., see also Mlambo (1972), p. 21.
34. Palmer (1977:1), p. 149.
35. Ibid.
36. The BSA Company refused to sell land to leading Ndebele households who needed it. The Company also refused to sell land to the Fingo Community (migrants from South Africa who had been invited by Rhodes to settle in Rhodesia). (Loney (1975), p. 54.)
37. Southern Rhodesia: Report of the Native Land Commission (1926), p. 3.
38. Kay (1970), p. 51.
39. International Commission of Jurists Report (1976), p. 12.
40. Kay (1970), p. 51.
41. Ibid.
42. Southern Rhodesia: The Land Apportionment Act (1930), Section 42 (1) (a).

43. Rhodesia: Census of Population (1969), p. 6.
44. I.D.A.F. (1977), p. 9.
45. Rhodesia Act: Land Tenure Act (1969), Section 5 (1).
46. Ushewokunze (1980), p. 181.
47. I.D.A.F. (1977), pp. 9-10.
48. Ibid.
49. Ibid.
50. Palmer (1977:1), p. 32.
51. Arrighi (1970), p. 217.
52. Palmer (1977:2), p. 242.
53. Arrighi (1970), p. 217.
54. Rhodesia: Census of Population (1969), p. 6.
55. Rhodesia: National Accounts and the Balance of Payments of Rhodesia (1971), p. 32. These figures have been estimated on the basis of assumed subsistence consumption and the estimated rural population. Because of the way in which rural household production figures are compiled, certainly the position might be much worse than figures suggest.
56. Cross (1977), pp. 185-86.
57. Vincent, Thomas and Stapples (1961), see also Vincent and Thomas (1960).
58. Vincent, Thomas and Stapples, Ibid., p. 4.
59. The 'highveld' consists of a high plateau that stretches from south west to south east through the centre of the country. The 'highveld' lies in an altitude of between 1,200 and 1,500 metres above sea level. Next to the 'highveld' is the 'middle-veld' which has an altitude of between 900 and 1,200 metres above sea level. Land below 900 metres above sea level forms the 'lowveld' and consists of the Zambezi Valley, the Limpopo Valley and the Sabi Basin. See Figure 1.1 above.
60. Metcalfe (1971), p. 86.
61. The Sabi-Limpopo scheme and the Tuli scheme among others have shown that land classified as dryland could be turned into massive agricultural production when the appropriate irrigation infrastructure is made available. Thus, the Sabi Basin at Chiredzi normally in Natural Region V was made suitable for growing citrus fruit, sugar-cane, wheat and cotton.

62. Nziramasanga (1980), p. 39.
63. Riddell (1978:1), p. 72.
64. Ibid.
65. Ibid.
66. Hume (1977), p. 17.
67. Riddell (1978:1), p. 52.
68. Ibid.
69. Weinrich (1975), p. 28.
70. Ibid.
71. Cf. Footnote 47.

NATURAL REGIONS AND FARMING SYSTEMS

Appendix 3.1

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Appendix 3.1

1 (2)

NATURAL REGIONS

RAINFALL AND FEATURES

FARMING SYSTEMS

Region I: Specialized and Diversified Farming	47" - 60" mean, 42" for long duration almost all the year; the ecologically dry months may range from 0 - 3.	Intensive beef and dairy production; afforestation, plantation and orchard crops, tea, coffee, and semi-intensive livestock production, potatoes and vegetables.
Region II: Intensive Farming 3,000 - 5,500 feet	28" - 42" seasonal: 4 - (5) very wet months; 2 - 3 medium wet; 4 - 5 ecologically dry; some ecologically dry spells during the rains.	Intensive cropping: large-scale maize production, tobacco; Intensive mixed farming: mixed cash, grain, dairying, beef and livestock; Intensive dairy beef and sheep production; semi-intensive beef production.
Region III: Semi-Intensive Farming 3,000 - 5,500 feet	22" - 28"; infrequent heavy falls; high probability of drought, 3 - 4 wet months, 2 - 3 medium wet and 5 - 6 ecologically dry; ecologically dry spells during the rains more frequent.	Semi-intensive livestock production, semi-intensive beef production; forestry, fodder cropping, and minor crop production.
Region IV: Semi-Extensive Farming; 4,000 - 4,300 feet	18" - 24" W. and S.E. of main watershed; in N. and N.W., higher drought incidence in the S. than in the N. Very wet months 2 - 3; medium wet 2 - 4 and 6 - 7 ecologically dry; frequent ecologically dry spells during the rains.	Semi-intensive livestock production, semi-intensive beef production, drought resistant cash crops on suitable sites; crops for cattle food.

NATURAL REGIONS	RAINFALL AND FEATURES	FARMING SYSTEMS
Region V: Extensive Farming 1,000 - 2000 feet, rising to 3,000 in S.E. and W. along boundaries with Region IV.	20" - 24" in Zambezi Valley, where heat reduces rainfall effectivity; in S. some sectors below 16; drought incidence very high (in S. about twice that in the Zambezi Valley); very wet months 0 - 1 - (3); medium wet 2 - 5, and ecologically dry - 7.	Extensive beef production (Ranching on veld only.)
Region XX: Unsuitable for any form of agricultural use; suitable only for Nature Reserves.	Mainly similar to Region V.	Unsuitable for any form of agricultural utilisation; suitable for game cropping.

Source: Abstracted from Vincent, Thomas and Stapples (1961), Tables 33 and 34.

THE LABOUR MARKET

In Chapter 3 we established the existence of dualism in the Rhodesian land market. Dualism in the land market was induced by colonial land policies. Generous land grants to the whites were achieved through systematic land alienation policies of the government. More important is the fact that dualism in the land market became the basis for dualism in other factor markets, notably in the labour market. As the man-land ratio in African Areas increased, and more people were crowded in a smaller land space, an 'unlimited' supply of labour began to appear in the African rural areas.

The discussion in Chapter 3 also showed that during the early years of the British South Africa Company (BSA Company) government, land was the most abundant resource in Zimbabwe in terms of relative factor prices. Capital, on the other hand, was scarce. Apart from the companies engaged in gold speculation and prospecting, the settlers lacked finance to afford capital equipment. White farmers lacked labour as well. Often there was an acute shortage of this factor. During the first decade of colonialism, the gap between supply and demand for labour was filled by a resort to forced labour. This direct compulsion was replaced by the Rhodesian Native Labour Bureau (R.N.L.B.) which was an institution designed to provide the Rhodesian mining industry with foreign African labour recruits during the early years of this century, before the process of proletarianization was sufficiently advanced to produce a sufficient supply of 'voluntary' labour from the indigenous Africans.¹

The successive Rhodesian administrations have always adopted a policy of allowing the primary sector employers in the modern economy to import foreign unskilled labourers, first through the R.N.L.B., and later through the Rhodesian African Labour Supply Commission (R.A.L.S.C.) on two-year contracts under oppressive conditions and at extremely low rates of pay.² This policy was designed in order to obtain cheap labour, because the low wages of the mines and farms could not otherwise attract sufficient numbers of local workers. Thus, the contract labour policy involved the import of unskilled labour and the exclusion of foreign African workers from employment opportunities in the designated Closed Labour Areas (urban centres and some

mining areas), thus making it necessary for them either to return to their countries of origin or else to take up low paid jobs (most of which were in the farms). Various influx control measures ranging from the pass system to occasional police raids were also used to redirect labour to places where it was needed most.³

As shown in Chapter 3, a 'slow' response to modern employment in the mines by the indigenous Africans in the early years of colonization was caused by the rapidity with which the Africans took to selling their crops in the mines and towns. Africans seeking higher real incomes through contact with the modern sector had two avenues: sale of labour and sale of agricultural surplus products. Thus, an African could only afford permanent commitment to wage employment if the real wage obtained there more than offset the loss in real income which his family would suffer through his prolonged absence from the indigenous agriculture.

In the present chapter we will discuss the development of dualism in the labour market of Zimbabwe, a dualism which is closely connected and consequent on dualism in the land market. The analysis is based on three foundations. First, a cheap labour policy was promoted in which workers were being supplied both through the importation of African foreign labourers from the neighbouring territories, as well as the eventual creation of an internal labour supply from the steadily impoverished African reserves. Our aim is to demonstrate that in the long term, labour supplies to the modern economy of Rhodesia were generated out of increasing impoverishment of the peasant farming sector. The land alienation policies in the African rural areas increased the need for rural residents to seek employment in the modern economy, and at the same time lowered the wage that they were prepared to accept in employment. The maintenance of a low cost labour supply has been a major objective of successive Rhodesian governments, and the economic structure that has developed, has been based on these low cost supplies. The land policies were backed by various restrictions such as discrimination, colour bar and tight control over black union formation.

The second foundation is the assumption that contrary to the belief that Zimbabwe's economy had moved from a situation of labour surplus at the beginning of colonization towards an eventual elimination of this surplus

during the 1950s,⁴ empirical evidence suggests that the labour supply actually moved from conditions of labour shortage towards one of a labour surplus, i.e. 'unlimited' supply of labour in the Lewis sense (Cf. Chapter 2). As has already been shown in Chapter 3, the conditions of rural overpopulation had become serious economic problems of the early 1940s and the 1950s.

Finally, the discussion of wages and employment is connected with the problem of labour migration. The literature of development economics is increasingly accepting that labour migration in most developing countries is a function of earning gaps between 'traditional' agricultural work and urban employment. There is now a great deal of evidence to support this hypothesis. William J. Barber shows that the percentage of male population in Zambia and Rhodesia that migrated to find employment during the 1940s and 1950s was inversely related to the cash crop potential of their home region.⁵ It has also been established that the time spent on cash crop production by Malawian tobacco farmers was inversely and significantly related to wage rates in the Rhodesian and South African labour markets where migrants could find work.⁶ In a well known model developed by Michael P. Todaro,⁷ migration decisions depend first on the gap in earnings between the agricultural wage and the modern sector urban wage, and secondly on the probability of getting a job in the modern sector, for which the existing level of urban unemployment might serve as a proxy, i.e. either an increase in the modern sector wage or an increase in the probability of employment will induce more rural labour to migrate. The trend and policy of labour migration in the Rhodesian labour market, however, depends on a number of features that are not dealt with in these models.

Thus, in the present chapter, emphasis will be put on the connection of dualism in the land market, as described in Chapter 3, and the 'discriminatory' dualism in the labour market. The latter will be seen to be dependent on one basic condition - land alienation of the African lands which laid the foundations on an 'unlimited' supply of unskilled labour. Finally, the conditions for the creation of an 'unlimited' supply of labour are analyzed in a formal model.

The Development of the Rhodesian Labour Market

In this section the aim is to show the development of the African labour market in the Rhodesian economy in its historic perspective. The analysis begins with the state of the labour market at the beginning of the colonization process when the employers experienced a severe labour shortage. The discussion will focus on the origins of the labour shortage and the measures resorted to by employers and the BSA Company government in order to secure their required labour supplies. As will be seen, the foundations of dualism in the labour market of Rhodesia were laid in the dualistic development of the land tenure system and in the colonial methods of recruiting indigenous and foreign African labour.

The basic connection between the dualism in the land and labour markets is illustrated by evidence for the causes of the shift in the labour supply curve to the right. As a result of dualism in the land tenure system, an 'unlimited' supply of labour was created in the economy, and through discriminatory laws in the labour market, Africans were relegated to holding unskilled jobs only.

The Initial Shortage of the Indigenous Labour

There is now abundant evidence to show that one of the most pressing economic problems of the colonists in Zimbabwe was the initial labour deficit. This general shortage of labour occupied a central place in policy making⁸ from the early period up to about the end of the Company administration in 1923. Acute shortages were recorded in 1896-1903, 1905-1911, and 1916.⁹

There are several reasons why the indigenous African labourers avoided mine labour during the early years of colonization. The low wages and appalling conditions in the mines were important in influencing the Africans to stay away from the modern sector employment. Charles van Onselen has observed that 'in the most general terms these problems derived from the functioning of the industry itself, from economic conditions within Rhodesia, and the situation of the colony's premier industry within a regional economic system that embraced southern Africa.'¹⁰

Due to certain crucial limitations, the industry was unable to attract sufficient labour. Gold mining in Rhodesia was usually found in a series of smaller quartz reefs which meant that the industry could not take advantage of the economies of scale that were possible in the Witwatersrand, or benefit from the centralisation that existed in Johannesburg in South Africa.¹¹ Furthermore, the ore was often scattered around and of an unknown quantity which also contrasted sharply with the extremely consistent, although low grade, ore in the Rand mines.¹²

In addition, the Rhodesian industry was constrained by the fact that it had to operate within a regional economic system in which the powerful Rand mines dominated. 'The output of a "large" Rhodesian mine was only about one tenth of that of an average Witwatersrand mine.'¹³ In this circumstance, if the Rhodesian mines were to develop despite their geological limitations, it meant that they had to attract capital on the basis of profits which could match what the shareholders were receiving in the Rand. This was particularly difficult at the turn of the century because the Rand mines were developing exceptionally rapidly. Thus, between 1901 and 1912, the average output of the Rand mines increased by 14.2 per cent per year.¹⁴ It was especially during this period that the Rhodesian industry was in need of reconstruction.

In the face of these uncertainties and lack of profitability, the Rhodesian industry reduced its costs of production, and this was achieved at the expense of the African workers' wages. As a result of this process black mine wages were lower in 1922 than they had been in 1904.¹⁵ Further, the industry cut down on indirect expenditure which made for miserable conditions in the mine compounds, and Africans were aware of this and took steps to avoid them if possible.¹⁶

As already shown above, the African workers had two alternatives open to them to increase their cash incomes: sale of labour power and sale of agricultural products. The latter alternative was the most preferred one. The Africans took actively to selling agricultural surplus products to the mines so that it appears that the opportunity cost of their entry into the 'modern' employment sector was high. This was probably because many Africans, though deprived of their former land rights, still remained on

some convenient part of their ancestral lands, earning the necessary cash income through sales of surplus agricultural produce. This was still a period of peasant development because surplus land was available, and conditions in the product markets were favourable as there existed a growing demand for peasant produce in the mines and urban centres.

Thus, in 1903 agricultural sales comprised 70 per cent of total African cash earnings.¹⁷ The African peasantry supplied the bulk of the food-stuffs required by the mines until after the end of the first decade of this century, since European farming before 1914 was still insignificant.¹⁸

In response to the problem of a labour shortage, forced labour became the first expedient adopted by the colonists. Only two years after the occupation of Mashonaland a pioneer wrote 'we have great trouble in getting native labour here, the only way we can do is to go and catch them at dawn and compel them to work.'¹⁹ Native Commissioners also resorted to forced labour.²⁰ For example, in 1895 the Native Commissioner for Hartely noted, 'I am at present forcing the natives of this district to work solely against their will, using such methods as I think desirable.'²¹ However, after the African uprisings in 1896, the presence of a Residence Commissioner representing the Colonial Office somewhat reduced the open forms of compulsion. From now on, forced labour was carried out by compelling Chiefs to turn out certain numbers of young men. Conditions of work were, however, appalling. Both employers and Native Commissioners had frequent recourse to the sjambok, the hide whip. (The Native Commissioner for Mazoe 'had a reputation of flogging indiscriminately'.)²² The Native Commissioner for Lomagundi observed in 1899 that employers 'also interfere in other ways with natives, thinking that because they came with the pioneers, or in the early days, they are entitled to treat natives as they please, and as apparently they have done nothing hitherto.'²³ An African Chief who failed to deliver his expected quota of labourers was given fifty lashes, fined six goats and three head of cattle and had his rifle confiscated.²⁴ As more severe punishment was meted out, African labourers tended to flee with the result that labour became increasingly scarcer.

A second means used to coerce or furnish labour was taxation. A tax was collected in cash, cattle, grain or alluvial gold or in labour, usually for

two months.²⁵ In 1895 alone, £8,000 worth of tax was collected and 'in some districts as much as one third of Shona cattle, sheep and goats were rounded up often by force.'²⁶ This was undoubtedly one of the causes of the 1893-96 African resistance against the white settlers. In 1904 the hut tax was raised from 10s. to a £1 poll tax for each male African. Taxation, however, did not prove to be an efficient means of supplying labourers to the employment sector, since it was possible for the Africans to pay taxes with the cash raised in their participation in the produce market.

But as in South Africa,²⁷ the Rhodesian African peasantry soon lost its ability to produce for the markets. The end came with the realisation by the BSA Company and settlers that Zimbabwe had no gold reef to be compared with that of the Rand. As seen in Chapter 3, this was realized by further land alienation. In order to raise the value of the country's land resources through commercial farming, the Company government launched an attack on the African reserves in the years 1908-1914 with the intention of recovering the best land and making it available for European settlement.²⁸ African peasants were increasingly evicted from the more fertile lands and from the lands within easy reach of the markets. In this way the growth of the peasantry was severely curtailed, so that an increasing number of African workers were left with the alternative of looking for jobs in the modern sector. However, other means of increasing the supply of African labour were tried from the beginning of the century.

Imported African Labour

During the 1890s the BSA Company introduced schemes to bring in foreign African labour. At first this took the form of encouraging neighbouring and even far away peoples to come and settle in Rhodesia on a permanent basis, e.g. the Fingoes of Eastern Cape who were invited by Rhodes himself. People from Mozambique, from Northern Transvaal, and from Bechuanaland (Botswana) 'were encouraged, sometimes in secrecy, to cross the border into Rhodesia'.²⁹ The Chamber of Mines put up extraordinary attempts to recruit labour as far away as Somalia, Abyssinia, South Arabia and Yemen.³⁰

The rather uncoordinated attempts to recruit extra-territorial labour during the first decade of the Company administration were replaced by the establishment in 1903 of the Rhodesian Native Labour Bureau (R.N.L.B.), which was government sponsored and funded, and had the express purpose of recruiting foreign African labour. The aim was to channel this labour to the mines where desperate attempts were made to stabilise labour within the confines of a low wage policy. From about 1914 onwards, the white plantation sector also came to be served by foreign African labour recruits. The R.N.L.B. was termed 'Chibaro' which means 'slave' or 'forced labour' by the Africans.³¹ Because of its exploitative wage structure, the R.N.L.B. enabled the mining industry to embark on a programme of wage reductions between 1903 and 1908, and thereby overcome the bargaining power of indigenous Africans in the labour market.³² The R.N.L.B. had many of the elements of forced labour. Duncan G. Clarke has noted that 'forced labour "contracts" were also secured with the purpose of illegally indenturing workers, the administrative agencies of the Company government of the time being complicit in these labour practices.'³³

The mine owners had earlier acted independently of each other, but by the formation of the R.N.L.B., they attempted to act in concert, like a monopsonist. The R.N.L.B. set up contract labour bureaus both inside Rhodesia and in the recruiting countries, in order to transport, finance and 'distribute' labour to Rhodesian employers who had previously paid the purchase price.³⁴ It acted as a single buyer of labour for the Rhodesian employers in the neighbouring countries. However, in the Rhodesian case monopsony did not succeed. Unlike in the South African experience, where monopsonization was finally successfully established in the form of the Native Recruiting Corporation which subsequently managed to secure a reduction in the cost of unskilled labour.³⁵ In the markets for foreign labour the R.N.L.B. competed with the Witwatersrand Native Labour Association (W.N.L.A.) which supplied labour to the Rand, in South Africa. Arrangements were made for cooperation between the two organisations but they did not prove effective.³⁶ In the local labour market the R.N.L.B. had not been granted rights to recruit labour. Thus, the conditions for effective monopsony were not present.

However, the R.N.L.B. was not without success in its specific purpose of providing cheap labour in large amounts. There was a preponderance of alien African labour in the Rhodesian mines and farms from the end of the first decade of this century up to the 1950s.³⁷ Between 1906 and 1912 alone, the R.N.L.B. recruits comprised, on average over 36 per cent of the mining industry's labour requirements. In 1907 and 1908 it provided 54 per cent and 48 per cent respectively.³⁸

From the demand side the largest employers of African labour (mines and farms) opted for contract labour because its supply price was lower than that of local labour. However, from the supply side earnings might have played a significant role in attracting labour. It would seem that during most of the colonial period contract workers came largely from areas of relatively poor peasant communities, where there was a relative lack of opportunities to fully participate and benefit from trade transactions in the agricultural produce market in their own countries. This behaviour of labour seems supported by Barber's conclusion that during the 1940s and 1950s, the percentage of male population that migrated to find employment was inversely related to the cash crop potential of their region.³⁹ If this is true, it only encouraged employers to increase the supply of labour through the R.N.L.B. contractees because it was an important means of maintaining low wage levels for domestic labour as well. As van Onselen noted:

Between 1906 and 1911 a growing number of R.N.L.B. labourers worked at consistently lower rates than those paid to 'voluntary' (i.e. non bureau) labourers. Besides the savings which this fact itself constituted it also placed the employers in a position to make reductions in the wages of other black workers. With supply relatively well-assured, a general reduction in wages was effected in 1906, and when the recession set in in 1908, employers used the opportunity to lower African wages once more. It was thus the R.N.L.B. and wage reductions between 1904 and 1908 which made the largest contribution to cost minimisation during reconstruction.⁴⁰

In sum, the Rhodesian labour market started off from a position of labour shortage at the beginning of colonization. Most probably, the low wages and conditions of labour in the mines did not attract African labour into wage employment. Secondly, from the indigenous African point of view, the opportunity cost of selling surplus agricultural produce to the urban markets was

lower than that of going into wage employment in the mines. Thus, in order to increase the requisite supply of labour the BSA Company tried many schemes to provide or coerce labour. The most successful of these schemes (as will be demonstrated further below) were the land alienation policies for local labour and the importation of foreign labourers from the neighbouring territories. These policies had also the effect of lowering the wage level obtained by unskilled (African) labour in the modern sector.

A Shift in the Labour Supply Curve

In this section we shall distinguish a change in labour supply involving shifts in the whole curve, from a movement along the same curve as a result of a change in the wage of labour. This will be illustrated with the aid of Figure 4.1 in which we measure the actual numbers in employment on the horizontal axis while the vertical axis denotes the wage level.

Let us suppose that the wage rises from w_1 to w_2 (everything else remaining unchanged), the number of workers who prefer to enter employment will rise from L_1 to L_2 . This is, however, not an increase in the labour supply. Rather, it is simply a movement to another point on the same supply schedule.⁴¹ Since our interest lies with the shift in the whole supply schedule and the causes of such a shift, we shall go on to the case where the whole schedule is shifted outwards.

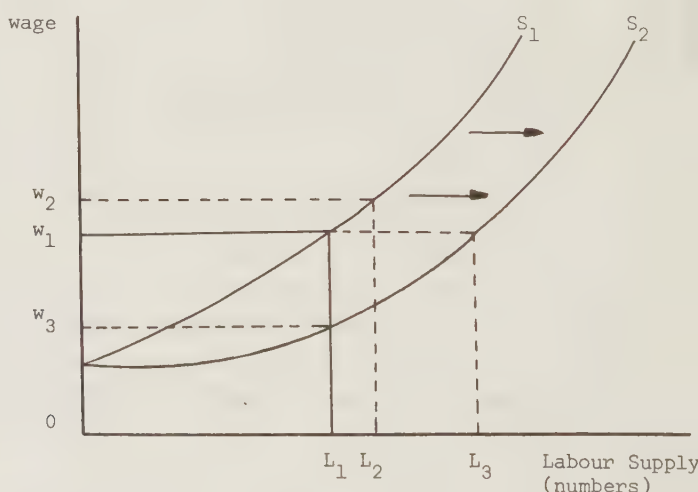


Figure 4.1 A Shift in the Labour Supply Curve

An increase in the supply of labour means that the whole schedule has shifted, e.g. from S_1 to S_2 so that at every possible wage more labour is supplied than before the shift in the curve, for instance, at wage Ow_1 the number of labourers supplied before the change in the supply schedule is OL_1 , but after the shift OL_3 labourers would be supplied. An outward shift of the supply curve also means that a given quantity would be offered at a lower wage than previously. Thus, e.g. with the supply curve S_2 , it is sufficient to offer wage Ow_3 . In a market characterized by free choice of labour, i.e. a voluntary relationship of labour with respect to other available income opportunities, an outward shift of the supply curve may indicate an increased willingness on the part of labourers to seek employment in the labour market. But, as will be seen, in the long run, the shift can be caused by reasons not necessarily reflecting the voluntary relationship of labour choice with respect to other income opportunities. Thus, the historical experience of the Rhodesian labour market points to the following causes of the shift in the labour supply curve: land alienation, foreign labour recruitment and discrimination as well as other stringent labour controls which redirected the unskilled labour to areas of low wages where it was most needed.

Between 1906 and 1910, the number of blacks employed in the Rhodesian mining industry rose from 17,381 to 37,826, and the proportion supplied by the R.N.L.B. increased from 28.27 per cent to 40.65 per cent.⁴² Thereafter the total number of black employees remained more or less stable, reaching a peak of 41,286 in 1924. However, the percentage of the R.N.L.B. recruits dropped from 40.65 per cent in 1910 to a figure of only 3.80 per cent in 1924.⁴³ This may be interpreted as a rise in the number of local Africans (including 'voluntary' foreign recruits) taking up jobs in the mines.

Once an increase in the supply of labour shifted the supply curve to the right and employers were relatively assured of a systematic flow of labour from both local and foreign labourers, the wage level could be continually reduced. This occurred between 1912 and 1933.⁴⁴ In 1931, some Rhodesian mining districts reduced African wages by 12.5 to 20 per cent. By 1934, these continual reductions in the wage level were causing considerable concern to some native commissioners.⁴⁵ Barber has noted that because of

the employment of extra-territorial labour in the period 1929-1945, real wages showed a tendency to decline, while the volume of African employment continued to expand.⁴⁶ These wage cuts were, however, officially justified on the grounds of minimising costs and hence enhancing the mining industry's profitability.⁴⁷ In this context, it became necessary to crush once and for all the indigenous peasantry's ability to rely on producing agricultural marketable surplus in order to gain cash incomes.

Hence developments in the land market became crucial for obtaining an 'unlimited' supply of cheap labour for Rhodesian industry. This 'unlimited' supply could then be further increased by discrimination and the introduction of the colour bar.

Dualism, Discrimination and the Colour Bar

The discussion in Chapters 2 and 3 demonstrated that the Rhodesian economy exhibits characteristics of dualism in the general sense of the 'classical' model associated with Lewis. The national economy may be (roughly) divided into one 'traditional' and one 'modern' sector. The latter is dynamic, relatively capital-intensive, and is based on a highly developed, monetized exchange economy, whereas the former is stagnant, labour-intensive (i.e. lacking capital), and based on activities which are often of a predominantly subsistence nature. (Cf. Chapter 2.) This dualistic structure was, historically, created by land annexations which had the effect of increasing the supply of low-cost, unskilled labour in the modern sector by destroying the alternative, preferred livelihood - that of the traditional African economy.

In this section it will be demonstrated that dualism in the land market and 'discriminatory' dualism in the labour market are not independent of each other in the Rhodesian case, but that they are based on the same condition - that of land alienation from the African majority by the white minority.⁴⁸ As shown in Chapter 3, what may be identified as a 'traditional' sector in the contemporary economy was created as a result of a policy where the whites gradually took over African lands, thereby drastically changing the production conditions in the original 'traditional' economy to the point where it is almost appropriate to speak of destruction. This policy, in turn, has made it possible to call forth an 'unlimited' supply of African

labour which, by means of discriminatory legislation, has been confined to unskilled jobs in the 'modern' sector. As a result, African incomes and working conditions appear grossly inadequate, both when the 'traditional' and the modern sector are considered separately, and when they are taken as a single entity.

The mechanisms for providing a permanent supply of cheap labour for the modern economy were created by land alienation policies and by various forms of discrimination that were sanctioned through the produce market and by labour market legislation. This sub-section deals with the 'discriminatory' dualism in the labour market, leaving the discussion on the produce market to Chapter 6.

In Zimbabwe, the attitude of white unions towards the advancement of African workers into skilled and semi-skilled positions, has been one of hostility. Inspectors of Mines Inquiries in 1912 showed that skilled Africans were only made most use of in the smaller mines,⁴⁹ and that the white workers on the Shamva Mine had threatened to strike in 1913 if Africans were to be employed as skilled labour.⁵⁰ Thus, in practice the skilled jobs have been reserved for whites for a long time, but the onset of the Depression in the early 1930s brought pressure to bear on the government to give a de jure sanction as well.

The Industrial Conciliation Act of 1934, modelled on the South African pattern (The South African Industrial Conciliation Act of 1924 denied the African workers the right to organise in trade unions),⁵¹ defined an employee as 'any person engaged by an employer to perform ... work ... but shall not include a native'.⁵² The Africans, therefore, could not be members of recognised trade unions, but instead remained under the Masters and Servants Act of 1901⁵³ which regulated the duties and rights of employers and employees by contracts arrived at individually by the contracting parties, i.e. according to the bargaining powers of each. This generally placed the Africans in an inferior position regarding the determination of wages and conditions of work. More importantly, the Industrial Conciliation Act also contained a clause which directly established a colour bar, by giving the Industrial Councils (consisting of white employers and employees) power to regulate apprenticeships - which

were reserved for whites. In this way, the white workers entrenched a non competitive wage structure in each industry by influencing the rate at which additional workers acquired skills and entered the industry.

Thus, once an 'unlimited' labour supply was assured through land alienation policies, discriminatory legislation confined it to unskilled jobs in the 'modern' sector. Further, discriminatory legislation placed African workers in an inferior and non bargaining position in comparison with white workers. For instance, the Industrial Conciliation Act of 1934 laid down strict regulations and control over African labour, in contradistinction to free bargaining found in the white labour force. These measures led to African incomes being grossly inadequate in both the 'traditional' and the 'modern' sector. As we will find in Chapter 7, there are large differentials in wages and salaries between white and black workers on the one hand, and within different sectors of black labour on the other.

Thus, while discrimination through law and practice can cause dualism in the labour market, creating a situation in which workers of similar abilities are paid substantially different wages, the colour bar reinforces this tendency by controlling the entry into skilled jobs, and excluding a section of the workers from the latter on the basis of colour. In Zimbabwe the Industrial Conciliation Act of 1934 had excluded Africans from the definition of 'an employee'. However, unlike in South Africa, where the colour bar was legalized in the 1920s and not relaxed subsequently,⁵⁴ the state in Rhodesia considered it necessary to respond to African union formation in the 1940s and to agree to institutionalise some, but not all, African unions. In addition, the need for stabilized labour following the emergence of manufacturing industry also led to a relaxation of the colour bar during the period up to the advent of the Rhodesia Front government in 1962, and the Unilateral Declaration of Independence in 1965. Although unionization was allowed, the official point of view remained that the African unions should be subject to close control.

In a statement of the provisions of the Industrial Conciliation Act of 1959, the Minister of Labour recorded in the introduction to the Act that

'it could be argued that to provide for these associations is nothing more than a control measure, and let me be frank, it is.'⁵⁵ The 1959 Act, it was felt, should only formally recognise African unions and give them limited rights, provided 'this form of conciliation (was) without repercussions occurring to the existing European organisations.'⁵⁶

The provisions of the Act covered all employers except those engaged in domestic service, agriculture and Rhodesia Railways. Public Service employees 'negotiated' directly with their employers, and were subject to special provisions which, given the weight of employee influence in the civil service, guaranteed that white preferences were met with regard to wage policy. Employees of the Rhodesia Railways were regulated by the Rhodesia Railways Act, but they were later assimilated under the Industrial Conciliation Act. Those Africans employed in domestic service and agriculture who accounted for 51.6 per cent of all wage employed Africans in 1959⁵⁷ had their employment conditions regulated under Masters and Servants Act (1901) which denied them union formation and collective bargaining.

White unions were regarded as automatically 'registered' under the Industrial Conciliation Act of 1959, but could be allowed to renegotiate their status in order to take African workers into their fold, while African unions were to apply and qualify for registration. Thus, a certain degree of 'multi-racial' unionism was allowed under the system of strict regulation and control. These 'multi-racial' unions were actually more multi-racial in theory than in practice. Their recognition was along hierarchical lines in which power within the unions lay with the skilled (white) workers. This was ensured by section 47 of the Industrial Conciliation Act (Chapter 246) of 1959, where section 47 (1) (a) provides for 'the equitable representation on the governing body of the trade unions or the employers' organisations of any different branches of employees or employers and, in particular, the adequate representation of the skilled and minority interests'. The constitution of the unions did not allow an applicant to be excluded from the union on the basis of colour, but the union could differentiate on racial grounds between its members. Thus section 47 (3) provides '(a) for the establishment of a branch of the union or its organisation; and (b) for its membership to be divided into branches on the

basis of class of work or enterprise or the place of work or business or the sex or the race or colour of the members or otherwise.' The registrar also regulated and protected the voting rights of the skilled and minority interests.⁵⁸ As a result of these discriminatory and control measures, Africans who are in the main in unskilled and semi-skilled classes of work, had very little collective voting strength within the 'multi-racial' unions.

In sum, dualism in the land market, created through land annexations, drastically changed the production conditions in the original 'traditional' economy to the point where it is almost appropriate to speak of destruction. The existence of dualism in the land market and 'discriminatory' dualism in the labour market reinforce each other and they are based on the same condition - that of land alienation from the African majority by the white minority. This policy, in turn, made it possible to call forth an 'unlimited' supply of African labour which 'discriminatory' legislation subsequently confined to unskilled jobs in the modern sector. As will be seen, these developments created grossly inadequate African incomes both in relation to the 'traditional' sector and the 'modern' sector viewed separately, and also when they are considered jointly. (Cf. Chapter 7.) In the next section we shall make an analysis of the creation of an 'unlimited' supply of labour in the Zimbabwean economy.

Creation of an 'Unlimited' Supply of Labour: A Model*

The historical experience of Zimbabwe presented in the preceding sections of this chapter can be summarized in a formal model. The model seeks to explain how an 'unlimited' labour supply is created, and the behaviour of wages under conditions of a continued presence or maintenance of 'unlimited' supply of labour in the economy. Let us assume that the economy can be divided into one 'modern' (white) and one 'traditional' (African) sector. The characteristics of these sectors are discussed in detail in Chapters 2 and 3, and in the preceding sections of the present chapter. Both sectors

* This model comes from an article by Mats Lundahl and Daniel B. Ndlela (1980)

employ unskilled labour and land, and in addition the modern sector uses skilled labour. The 'traditional' sector produces mostly food products and to a limited degree some raw material, while the output of the modern sector consists of food, minerals, agricultural raw materials and industrial products. Whites are only employed in skilled jobs, while Africans may (at the outset) do both skilled (when having the necessary education) and mainly unskilled labour. However, since the model focuses mainly on the conditions which shift the labour supply curve of predominantly unskilled labour to the right, we shall concentrate for the most part on the behaviour of unskilled labour.

In Figure 4.2 the first quadrant represents the market for unskilled labour in the modern sector. The supply curve S_1 begins on the vertical axis at a wage which may be defined as the subsistence wage (the wage needed to keep a single person alive and working in the sector) and extends north-eastwards to a maximum level of employment (not shown in the figure) where all the unskilled labourers are working in this sector. The total supply of unskilled labour is assumed to be given. The first quadrant also contains the marginal revenue product (demand) curve for unskilled labour in the modern sector MRP_1^U . The equilibrium of this labour market, assumed to be competitive at the outset, is given by a wage level of w_1^U and a corresponding employment of L_1^U .

The second quadrant represents the employment of unskilled labour in the 'traditional' sector. The unskilled labour curve L_1^T is identical with curve S_1 in the first quadrant. The alternative to working in the modern sector for unskilled labour is to fall back into the 'traditional' African economy. The L^T curve measures leftwards how much labour can be employed in the traditional economy given the wage (and conditions) for unskilled labour in the modern sector. The traditional sector acts as a 'sink' where all labourers not used in the modern part of the economy are absorbed. Thus, employment in the traditional sector reaches a maximum when employment (unskilled) in the modern sector is minimized, and vice versa.

In the third quadrant we have the output of the traditional sector. The marginal revenue product curve for labour in the traditional sector (MRP_1^T) corresponds to the L^T curve in the second quadrant. With a level of unskilled

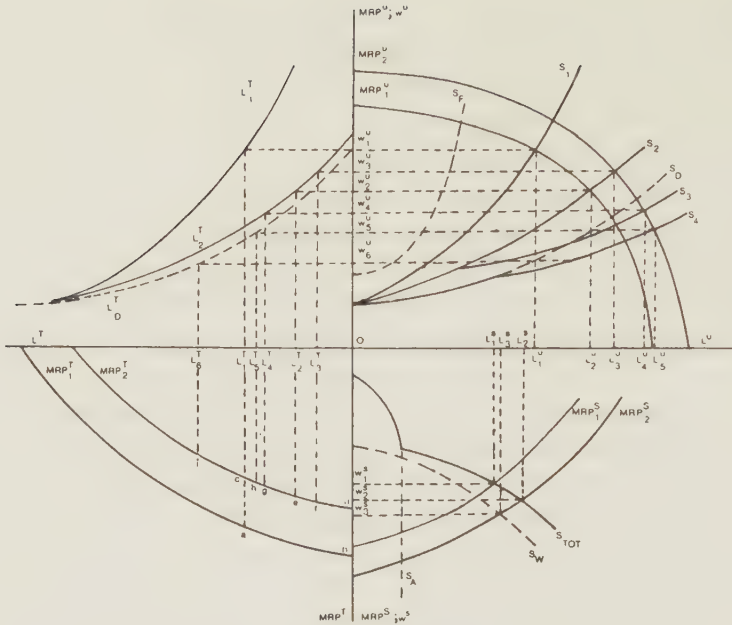


Figure 4.2

employment corresponding to L_1^U in the modern sector and to L_1^T in the traditional sector, the output of the latter is given by OL_1^T , which is divided among those working and using land in the sector.

This leaves us with the fourth quadrant, where we find the market for skilled labour in the modern sector. Let us assume that at the outset the labour supply is divided into one African and one white component. It is assumed that all Africans are prepared to work at a lower wage than the whites and that after a certain point (corresponding to a wage lower than the one where the first whites will enter the market) the supply for skilled African labour will be exhausted, i.e. completely inelastic. This is the case because no further training possibilities are offered the Africans. ('The vast majority of black workers in Zimbabwe are in unskilled or semi-skilled occupations and opportunities for higher training are restricted. White

employers and white workers together form a powerful block to African advancement.')⁵⁹ Horizontal addition of the S_A and S_W gives the total supply curve of skilled labour, S_{TOT} . The intersection of this curve with the marginal revenue product (demand) curve under competitive conditions yields the equilibrium wage w_1^S and the equilibrium employment L_1^S , i.e. the number of Africans and whites employed is given by S_A and S_W at wage w_1^S .

Thus we have the initial situation characterized by competitive equilibria in all the three markets. But let us see what happens after discriminatory measures of all kinds are introduced in the labour market. In the analysis we shall assume that all product prices are given and that no technological change takes place. For the sake of simplicity we also assume that the influence of changes in employment of unskilled labour on the employment of skilled workers and vice versa are so small as to be negligible. (Our main interest lies in unskilled rather than in skilled labour.)

The initial effect of land alienation in the traditional sector is to shift the MRP_1^T curve upwards in the diagram to MRP_2^T . We assume that the production function of the traditional sector has positive second cross derivatives with respect to land and labour, so that a reduction in the amount of land should reduce the marginal revenue product of labour at all levels of employment in the traditional sector.⁶⁰ Thus, at a given employment level, L_1^T , the total output of the sector is reduced to OL_1^Tcd . This, in turn, leads to a decline in the per capita income in the sector.

The decline in the per capita income in the traditional sector should make it comparatively more rewarding at the margin to seek wage employment in the modern sector. As the analysis of Chapter 2 shows, the literature of economic development has examples of economic behavioral models of the rural-urban labour migration, ranging from the simple wage differential approaches of Lewis (1954), Ranis and Fei (1961), Jorgenson (1961), to the later models of Todaro type which assume that the rural labour migration is a function of a combination of the prevailing real income differentials and the rural-urban 'expected' income differential, that is, income differential adjusted for the probability of finding an urban job.⁶¹ In the present model, because of the decline in income per capita in the African

rural sector, unskilled labour is forced out of that sector in order to seek alternative incomes in the modern sector albeit at falling wage rates in the latter sector. This is because of massive land alienations which prevents the traditional sector from providing sufficient incomes for everybody, and consequently these incomes have to be supplemented with wage incomes in the modern sector. As a result, the supply curve of unskilled labour shifts, e.g. in the manner shown in the figure (From S_1 to S_2). The L^T curve also shifts in a corresponding manner. As both curves are flattened out, the traditional sector will now be emptied of labour at a lower wage than before.

The increased supply of unskilled labour in the modern sector will shift employment there to L_2^U and depress the wage to w_2^U . The employment level in the traditional sector, in turn, will fall to L_2^T and the output of the latter decreases to OL_2^T . This output is shared among fewer persons than before, but if substantial amounts of land were alienated, as was actually the case in Zimbabwe, the output per capita of those active in the traditional sector should fall. Together with a fall in the wage level of unskilled labourers in the modern sector, this leads to a decline in the per capita income of the African population as a whole.⁶²

However, the alienated land is put to work in the modern sector on the white farms. This has the effect of raising the marginal productivity schedules of both skilled (downwards as shown in the diagram) and unskilled labour. More skilled and unskilled labour are hired and wages increase as well (to the levels indicated by w_3^U and w_2^S). In the meantime, employment in the traditional sector decreases, but output per labourer increases there (assuming diminishing returns to labour to prevail). Thus, to a certain extent, increased unskilled wages and increased per capita production in the traditional sector compensate for the negative effects of land alienation. The value of output in the traditional sector comes from both land and labour. With large parts of land lost for the Africans through massive alienation of land to the Europeans, the only way to compensate for the incomes lost is for large numbers to leave to seek jobs in the modern sector. In the actual experience it is hard to believe that the net effect of land alienation would be other than a decline in the overall standard of living of the Africans.⁶³

But presumably due to population growth (Cf. Chapter 3) while unskilled labour was pushed out of the traditional sector, actual numbers of persons remaining there did not decrease much. In the typical Rhodesian experience the majority of the economically active men spend their active lives as wage earners in the modern sector, but their dependents remain in the traditional sector.⁶⁴

As shown in the above sections, the second most important means of providing labour for the modern sector was through the import of foreign African labour from abroad. The immediate effect of this is felt in the market for unskilled labour in the modern sector. To the supply curve S_2 , we now add another curve for foreign labour, say S_F , assumed to begin at some stage above the subsistence level. If we add this curve horizontally to S_2 we get the new, flatter, supply curve S_3 . Total employment of unskilled labour increases to L_4^U and the wage decreases to w_4^U . But at this stage the effect of the increased supply of domestic labourers and foreign labourers eventually creates an 'unlimited' supply of labour in the modern sector. Employment of domestic labourers, therefore, falls back to the level indicated by S_2 in the diagram. These workers are now pushed into the traditional sector where, due to diminishing returns to labour, output per capita will again fall. In sum, this leads to a decline in African (domestic) per capita income.⁶⁵

Finally, when the colour bar is introduced in the modern sector, we first have to move from the S_{TOT} curve to the S_W curve to determine the new wage and employment levels for skilled labour. Because of the colour bar in the market for skilled labour, S_W now represents the total supply of skilled labour. As shown in the diagram, the total level of employment (skilled) is reduced and the wage level increases (to L_3^S and w_3^S , respectively), White employment increases as a result of the wage increase while at the same time all Africans are being removed from the market for skilled labour.

The skilled Africans will have to be employed elsewhere. Let us assume that they are transferred to the traditional sector even though their special skills are not applicable there. This should, however, lead to a decline in output per capita in the sector. At the margin, it will pay for some people to leave the sector and take up unskilled jobs in the modern sector

instead. In this case, the supply curve for domestic labour, S_2 , shifts to S_D and L_2^T shifts to L_D^T , beginning further to the left, and the new total supply curve of unskilled labour is S_4 , which is further to the right and flatter than S_3 . Again the wage level declines (to w_5^U), due to the increased supply of labour. Employment also increases in the traditional sector (to L_5^T) and per capita output declines. Once more the overall standard of living of the Africans declines.⁶⁶

The process analyzed above contains a cumulative element. When the land area at the disposal of the traditional sector is reduced or when too many people are packed into a given area, overgrazing, soil exhaustion and erosion, as demonstrated in Chapter 3, sooner or later take their toll. As the natural resources are successively destroyed, the supply curve for unskilled labour shifts once more to the right. More people will then be pushed into the modern sector holding unskilled jobs at falling wages. Provided that the African population grows, it will be difficult to stop the soil erosion process, and an increasing number of people will be compelled to leave the sector.

The applicability of the model may be marred by the question as to whether it is realistic to assume that product prices do not change. In practice, we would not expect the adjustment to be such as to leave commodity prices unaltered. What the model indicates is that given that changes in commodity prices are sufficiently small, the measures analyzed have a tendency to create an 'unlimited', i.e. infinitely elastic, supply of labour in the modern sector. The case of gold comes closer to reality, as Charles van Onselen noted:

The industry (gold) had ... to contend with the fact that for long periods the price of the product was fixed.⁶⁷

When it comes to other commodities, the assumption is of course more dubious, but commodity price changes cannot be advantageously handled in the present, simple model. For that we should need a complete general equilibrium structure, specifying not only the supply side but the demand for different products as well. However, within the limitations of the present analysis and assuming that movements in commodity prices are either small or exogenous,

we conclude that the elements included in the land alienation cum discrimination process tend to create an 'unlimited' supply of labour by gradually shifting the supply curve to the right, i.e. towards the subsistence level. The existence of such an 'unlimited' supply of labour has been noted for Rhodesia, where the real wages appear to have fallen from 1929 to 1945.⁶⁸

As the above analysis illustrates, the concrete case of the 'unlimited' supply of labour has its basis in the land alienation process. Land alienation does not only have an impact on the supply of labour in that it forces people out of the traditional sector. It also is a prerequisite for establishing the uneven power relations in the market for unskilled labour. The discriminatory laws in the labour market and the colour bar which finally restricted Africans to unskilled and menial jobs might also have been created without annexation of African land, but they would not have been effective, since the Africans would then always have had the alternative of going back to a traditional economy, allowing for a much higher standard of living than has actually been the case. If the Africans had been backed by a substantial amount of landed wealth, they could have used it as a weapon against white monopolization of skilled jobs, as well as against discrimination laws forbidding unionization. Since the white economy was dependent on the large supplies of unskilled labour, the strike weapon could have been used to force rises in the wages and a demolition of the job reservation policy.

Conclusion

The discussion in this chapter demonstrates that the development of dualism in the labour market of Zimbabwe was closely connected and consequent on the development of dualism in the land market. During the early years of colonization there was a labour deficit in the modern sector, African labour avoided wage employment because of low wages and bad conditions in the mines, and instead took to selling agricultural surplus products in order to increase their cash incomes. This was possible because surplus land was available and conditions in the product markets were favourable, since there existed a growing demand for peasant produce in the mines and urban centres.

As the above analysis shows a shift in the unskilled labour supply curve to the right was eventually caused by a combination of forced labour, recruitment of African foreign labour and land annexations. The latter was the most important cause of the outward shift in the unskilled labour supply curve. It was also the basis for dualism in the labour market, since historically, land alienations had the effect of increasing the supply of low-cost, unskilled labour in the modern sector by destroying the alternative, preferred livelihood - that of the traditional African economy. Thus one important conclusion of the analysis is that dualism in the land market and discriminatory dualism in the labour market are not independent of each other, but are based on the same condition - that of land alienation from the African majority by the white minority. This led to an 'unlimited' supply of labour which by means of discriminatory legislation and the colour bar was confined to unskilled jobs in the modern sector.

The analysis in the model above further demonstrates that land alienation in the traditional sector not only increased the supply of unskilled labour to the modern sector, but also lowered the wage level. However, since the land alienations prevented the traditional sector from providing sufficient incomes to everybody in that sector, these incomes had to be supplemented with wage incomes in the modern sector. As the increased supply of unskilled labour in the modern sector shifted the labour supply curve further to the right, the wage rate was further depressed. As employment level of the modern sector successively increased, there was a corresponding fall in the employment and output levels of the traditional sector. This output was shared by fewer persons than before, but with substantial land annexations as was actually the case in Zimbabwe, the per capita incomes of those active in traditional agriculture presumably fell. Together with the fall in the wage level of unskilled labourers in the modern sector, this led to a decline in the per capita incomes of the African population as a whole. This can be justified on the grounds that with the introduction of the colour bar in the labour market of skilled labour, the total supply of skilled workers became limited to the total amount of white labour in the economy.

The case for the 'unlimited' supply of labour has its basis in the land alienation process. The latter did not only force people out of the traditional sector, but it was also the prime condition for establishing the uneven power relations in the market for unskilled labour. Without massive land annexations, African labour would have returned to the production of agricultural surplus products in order to increase their cash incomes or have used the strike weapon in order to force changes in the discriminatory legislation and monopolization of skilled jobs by the white workers.

1. van Onselen (1978), p. 89.
2. ILO (1978), p. 85.
3. A pass system and other influx control legislation came into being during the early years of colonialism. Legislation to this effect was promulgated in the Native Urban Locations Ordinance (which included mines) of 1906 and the Salisbury Native Rules and Regulations of 1907. (Mackenzie (1970), pp. 48-49.) These regulations, with various amendments became a permanent feature of the Rhodesian labour system right up to the 1970s. Among the legislations that prevented blacks from living in the urban areas were the 'Registration and Identification' Amendment Act of 1973 and the Vagrancy Amendment Act of 1973. (Davies (1978), p. 11.)
4. Barber (1961).
5. Barber (1960), pp. 241-42.
6. Dean (1965).
7. Todaro (1969).
8. Several aspects of the Rhodesian labour supply problem have been documented by historians, geographers and economists alike. See Arrighi (1970), Mackenzie (1970), Scott (1954), van Onselen (1976), (1978), Phimister (1977) (1978), and Mason (1958).
9. Arrighi (1970), p. 200.
10. van Onselen (1976), p. 74.
11. Ibid., p. 17.
12. Ibid., p. 18.
13. Ibid.
14. Ibid.
15. Ibid.
16. Ibid., p. 74.
17. Arrighi (1970), p. 216, and fn. 30, p. 229; Palmer (1977:2), p. 229.
18. van Onselen (1976), p. 74.
19. Mackenzie (1970), p. 46.
20. Ibid., p. 50.
21. Palmer (1977:1), p. 43.

22. Ibid.
23. Ibid.
24. Ibid.
25. Ibid., p. 44.
26. Ibid.
27. Lundahl and Ndlela (1980), p. 111.
28. Palmer (1977:1), p. 80.
29. Mackenzie (1970), p. 43.
30. Ibid.
31. van Onselen (1976), p. 99; (1978), p. 89.
32. van Onselen (1978), p. 89.
33. Clarke (1974:2), p. 9.
34. Ibid., p. 8.
35. Jeeves (1975), p. 28; Horwitz (1967), pp. 190-93; Wilson (1972), pp. 3-5.
36. van Onselen (1976), pp. 85-86.
37. Scott (1954), p. 31; Phimister (1977), p. 87.
38. van Onselen (1976), p. 114.
39. Barber (1960), p. 244.
40. van Onselen (1976), pp. 25-26.
41. Reynolds (1978), pp. 92-94; Douglas (1934), p. 237.
42. van Onselen (1976), p. 114.
43. Ibid.
44. Ibid., p. 33.
45. Ibid.
46. Barber (1961), p. 208.
47. In 1933 an official government publication recorded: 'the cost of living for natives is and will remain in depreciated sterling exactly what it was in the sterling of 1930. There is, therefore, no need for native wages to rise - a big factor in mining costs.' (van Onselen (1976), p. 33.)

48. A similar case is that of South Africa, see Lundahl and Ndlela (1980).
49. Phimister (1971), p. 69.
50. Ibid.
51. Horwitz (1967), p. 193.
52. Sprack (1974), p. 19.
53. For details see ILO (1978), pp. 76-77; Clarke (1974:1), Chapter 5.
54. Lundahl and Ndlela (1980), p. 115.
55. ILO (1978), p. 65.
56. Ibid.
57. Ibid.
58. Ibid, p. 69; See also Harris (1974), p. 55.
59. I.D.A.F. (1977), p. 15.
60. If say the production function of the traditional sector is $Q = g(T, L)$, where T is land or terrain and L = labour, and we have $\frac{\partial^2 g}{\partial T \partial L} > 0$, an increase of T implies an increase of $\frac{\partial g}{\partial L}$ and a reduction of T also implies a reduction in $\frac{\partial g}{\partial L}$.
61. Todaro (1969).
62. To maintain fixed product prices when the supply of unskilled labour shifts from S_1 to S_2 , the price of land must rise. When more unskilled labour is employed in the modern sector as the unskilled wage falls, the change in profits in this sector equals

$$d\pi = \bar{P} \frac{\partial Q}{\partial L^U} dL^U - L^U dw^U - w^U dL^U - \bar{J}dr \quad (1)$$

where J stands for land and r for rent, given the supply of land, given the product price, $\bar{P}$, and given that changes in the level of unskilled wages have no repercussions in the market for skilled labour. Temporarily, these profits are positive, but as firms compete, profits again fall to zero. For this we must have that

$$\bar{P} \frac{\partial Q}{\partial L^U} dL^U = L^U dw^U + w^U dL^U + \bar{J}dr \quad (2)$$

At the outset, the marginal revenue of employing more unskilled labour must be equal to the marginal cost of doing so, given product and factor prices, for each firm, and hence also for the industry as a whole:

$$\bar{P} \frac{\partial Q}{\partial L^U} = w^U \quad (3)$$

Thus, for zero profits it follows that

$$-L^U_{dw^U} = \bar{J} dr \quad (4)$$

With a fall in unskilled wages, rents must increase, but with a given commodity price, firms compete for the given resource, land, so as to make its price increase until profits are wiped out.

63. When more land is put to use in the modern sector, profits are again increased, this time by

$$d\pi = \bar{P} \left(\frac{\partial Q}{\partial J} dJ + \frac{\partial Q}{\partial L^U} dL^U \frac{\partial Q}{\partial L^S} dL^S \right) - rdJ - Jdr - L^U_{dw^U} - w^U_{dL^U} - L^S_{dw^S} - w^S_{dL^S} \quad (5)$$

and at the outset, in addition to (3) we have

$$\bar{P} \frac{\partial Q}{\partial J} = r \quad (6)$$

and

$$\bar{P} \frac{\partial Q}{\partial L^S} = w^S \quad (7)$$

so that for profits to fall to zero we must have

$$-L^U_{dw^U} - L^S_{dw^S} = Jdr \quad (8)$$

This time, however, rents have fallen due to the increased supply of land. With positive profits, firms bid for more labour (both skilled and unskilled) to add to the new land and hence there is a rise in both wage levels.

64. Mswaka (1974), p. 60, and Weinrich (1974), p. 60.

65. The sequence of note 62 applies here.

66. The change in profits in the economy is

$$d\pi = \bar{P} \left(\frac{\partial Q}{\partial L^S} dL^S + \frac{\partial Q}{\partial L^U} dL^U \right) - w^S_{dL^S} - L^S_{dw^S} - w^U_{dL^U} - L^U_{dw^U} - \bar{J}dr \quad (9)$$

and for profits to be wiped out we must have, with skilled wages rising and unskilled wages falling, that

$$-L^S_{dw^S} - L^U_{dw^U} = \bar{J}dr \quad (10)$$

i.e. that the effect on rents is indeterminate.

67. van Onselen (1976), p. 18.

68. Arrighi (1970), p. 205.

5, THE AGRICULTURAL CREDIT MARKET

In Chapter 3 we showed that the historical base of Rhodesian agriculture was closely connected with the degree of land concentration in the national economy. It was also demonstrated that dualism in Zimbabwe originated in the land market. Dualism in that particular market resulted in a dual system of agriculture that permeated every facet of that sector, from the concentration of the best lands (in terms of quality and nearness to the market) among the white farmers, up to the granting of credit and marketing facilities. The concentration of the best land in the hands of the whites obviously resulted in a higher return to capital in the white agricultural sector. This tendency was certainly reinforced by those political measures which were meant to hamper the flow of credit to the African farmers.

In the present chapter, we shall discuss the savings possibilities of the white and African farmers respectively, and the demand and supply of credit in the agricultural sector. Because of data limitations, especially regarding savings, we shall analyse the opportunity to save with the aid of output per capita levels among the European farmers on one hand, and African farmers on the other. Land concentration, including the eviction of Africans to the poorer and more arid parts of the country, led to differences in per capita levels which in turn presumably played an important role in determining the relative opportunities for savings. The level of demand in the white and black farming sectors will also be examined. Finally, the dualistic pattern of the Rhodesian agricultural credit market will be illustrated with reference to the development of the institutional sources of credit. It will be shown that the volume of credit funds was much higher in the white sector than in the African sector. The reasons for the low level of credit in the African sector will be explored. The chapter ends with an analysis of interest rates, which indicates that lending rates were determined by government policy and were unimportant in the allocation of credit.

Savings in The Agricultural Sector

Our aim in this section is to determine the extent of the differences in the opportunity to save between the European and African agricultural sectors.

There is, however, a data limitation in the area of savings. Firstly, on the European level, data are highly aggregated which makes it difficult to separate savings by the white workers and industrialists in the modern sector from the savings of the white farmers. With respect to savings in the African farming areas, the data limitation is even worse than that for the white areas. In these circumstances, the estimated volume of savings will be subject to the assumption that the ability to save is related to income per capita levels in both the European and the African sectors. In this way, we can reasonably assess the savings potential of the two sectors.

As already shown in Chapter 3, after the end of the first decade of the present century Rhodesia's white agricultural sector began to produce most of the commercial food supplies for the towns and mines. European agriculture was dominated by maize, tobacco and cattle. Although maize production fluctuated a great deal due to weather variations, European total output remained fairly stable between 1920 and 1950. (Cf, Table 5.1.)

Table 5.1 European Maize Output Per Capita, 1921 - 1946

Year	Total Grain Production (bags=203 lb)	Maize Output Per Capita of The White Agricultural Population*
1921 - 22	662,636	79.7
1922 - 23	1,505,580	181.0
1925 - 26	1,393,654	154.6
1926 - 27	1,659,597	184.2
1929 - 30	1,917,252	167.0
1930 - 31	1,436,644	125.2
1934 - 35	1,269,185	96.3
1935 - 36	1,985,848	150.7
1939 - 40	1,625,292	119.5
1940 - 41	1,184,751	87.1
1944 - 45	1,535,471	95.5
1945 - 46	1,454,132	90.5

*) The white agricultural population was estimated as 60% of the whole rural population. The 1946 Census assumed that all the centres with less than 100 persons were rural areas, so that the remaining 40% of the whites were either small-owner mine workers and shopkeepers,

Source: Calculated from Weinman (1975), Table 1; Palmer (1977:1), Table 3, p. 92; and Southern Rhodesia - Report of the Census of Population of Southern Rhodesia (1946), Table 8, p. 14.

As stated above, it is assumed that savings by white farmers can be estimated as a function of the average per capita income in white agriculture. A rough estimate can be made with the help of the figures for white agricultural maize output per capita. During the long period between 1921 and 1946, the average per capita (maize) output of the white farmers was 112 bags.¹ This per capita output can be compared with that of African farmers.

There are no data available for the output levels of maize by the African farmers during the 1923 - 1946, but as the analysis of the produce market in Chapter 6 will show, African sales of maize dropped considerably due to the fall in maize prices in 1920-21, and during the depression of the early 1930s when discriminatory price arrangements were applied to African agricultural produce.

One available estimate (sample census) of African maize production was provided by the government in the 1947-1952 period. (Table 5.2 below.) The production figures in Table 5.2 are rough estimates. The amount of estimated production was usually simply based on the size of the rural population. (This procedure was followed for many years so that actual production figures for African agriculture in the Tribal Trust Lands have been an unknown quantity right up to 1976.)²

Table 5,2 African Maize Output Per Capita, 1947 - 1952

Year	Estimated Production (bags=203 lb)	Maize Output Per Capita of The African Rural Population*
1947	930,000	.7
1948	1,670,000	1.3
1949	1,490,000	1.2
1950	1,840,000	1.4
1951	1,280,000	.1
1952	1,970,000	1.6

*) The 1948 and 1954 population counts were based on both the de facto and de jure indigenous population of the Tribal Trust Lands and the African Purchase Areas. The rural population used here was estimated as 80% of the African indigenous population. The remaining 20% were away in the modern sector employment or in the informal sector of the mines and towns.

The figures in Table 5.2 should be comparable with those of the white agricultural population because presumably all African households in the rural sector were cultivators, while 20 per cent of the white rural population were either small-worker miners and/or shopkeepers. As can be seen, the average maize output per capita of the African rural population between 1947 and 1952 was only 1 bag compared with 112 bags for the European agricultural population. Agricultural output per capita of the African rural population was depressed by population pressure in the African areas, especially in the reserves. (The APAs were better than the TTLs in relation to marketable production, but since they only accounted for less than 10% of the total African farming area, their role was probably insignificant.)

Figures of the rural population by districts for the 1960s indicate that in every district of the country (in both the TTLs and European areas) the African vastly outnumbered the Europeans.³ Thus, given the shortage of land in the African areas (Cf, Chapter 3), it is probable that population pressure led to adverse effects on the possibilities of savings for the African peasant farmers. Moreover, the TTLs occupy the worst land, land which is excessively overpopulated and overgrazed (in some areas 40 per cent of those between 16 and 30 are landless),⁴ and which has in consequence been subject to a rapid rate of soil erosion. (We shall return to this in Chapter 7.)

As far as Africans are concerned, in the early years of colonization there was a conscious response by the peasantry to the opportunities afforded by the accumulation of cattle for increasing their future incomes. Thus, in the period 1905-21 the number of African-owned cattle rose from 114,560 to 854,000 head (i.e. at an average compound rate of 12.5 per cent per year),⁵ This rate declined to 6 per cent in the 1921-31 period and to 1 per cent in the 1931-45 period.⁶ But with the lack of land in the African rural areas, the cumulative effects of population pressure of both humans and livestock had already begun to force down the African rural population per capita incomes by the 1930s and early forties. On the other hand, the growth of the African rural population rose from approximately half a million in 1901 to 1,587,100 in 1948, and thereafter from 2,014,000 in 1954⁷ to 3,338,000 in 1962.⁸ As a result of this population growth it is probable

that the total amount of capital accumulation might also have increased, but under conditions where the optimum level of population in the African Areas had been exceeded, it follows that although total output may have continued to rise, average output per capita began to decline along with marginal productivity. (We shall return to this subject in the discussion of population pressure in Chapter 7.) Thus, if savings are taken as a function of per capita incomes in the African rural areas, the evidence presented above suggests that the rate of savings by African farmers was extremely low and that it may even have fallen over time.

The discussion in this section shows that under the assumption that the average propensity to save is an increasing function of the income per capita of rural population, the African peasant farmers in Zimbabwe have been at a disadvantage when it comes to savings. It is generally agreed that the bulk of commercial output from agriculture comes from the white farming sector, African Purchase Areas are responsible for most of the sales through the Marketing Boards that come from Africans. From the early 1960s, an increasing amount of food has had to be imported into the Tribal Trust Lands and the population of the latter areas has become increasingly dependent upon commercial agriculture for their basic requirements. This situation by and large precludes savings in the African rural areas (in particular the TTLs).

The Demand for Credit

The demand for credit in the agricultural sector of underdeveloped countries is frequently connected with consumption needs between the planting and harvesting periods, and in addition with both the long-term 'fixed capital' needs and short-term requirements, like variable capital inputs (fertilizers, seeds, and fuel). Whilst the demand for credit for consumption purposes was almost exclusively concentrated in the African peasant sector, the latter objectives have in the Rhodesian experience affected both the white commercial farming sector and the emerging African peasantry. In this section, our purpose is to determine the extent of the demand for credit in the European and African farming sectors.

As postulated in the above section, the European farmers of Rhodesia were generally better off with regard to savings than the Africans. This was because the white farmers had higher per capita incomes than Africans, since increases in per capita incomes are an important source of savings. We, therefore, concluded that the former had better possibilities for saving and accumulating capital formation than the latter. This, however, did not prevent the white farmers from demanding credit. In fact, despite their better position for accumulating savings, the white farmers needed credit facilities for their farming operations. The demand for credit by the white farmers to purchase farms, livestock and agricultural equipment, and improvements such as fencing and irrigation works led to the establishment of a Land Bank in 1912.⁹ (The success of this scheme in Rhodesia led white settlers elsewhere - notably in Kenya where one was established in 1930 - to demand similar facilities.)¹⁰

In combination with the demand for pure credit facilities, the white farmers in Rhodesia also pressed for more government subsidies and extension services.¹¹ The combination of these factors created an unfair competition between the 'heavily subsidized European farmers' and the African peasant farmers who were in addition being pushed away from the lands with easy access to the markets.¹² The demand for credit facilities by the whites in the agricultural sector led the government to establish the Land and Agricultural Bank in 1924 to provide medium and long-term credit for European agriculture and short-term loans for agricultural production,

Another reason for the establishment of the Land and Agricultural Bank was the recognition by the government that private commercial banks could not be relied upon to provide long-term and intermediate-term credit to the agricultural sector. This institution served the demand for white farmers during the whole period from 1924 to 1971 when it was replaced by the Agricultural Finance Corporation of Rhodesia. Available estimates indicate that 80 per cent of all European farmers had actually demanded loans at one time or another by 1954.¹³ As can be seen in Table 5.3, showing loans granted in 1969, loans were needed for a wide variety of purposes ranging from the purchase of land, erection of buildings, to cropping activities. The Land and Agricultural Bank loans fell into the three categories of long-term, short-term and drought relief loans,

The demand for credits by the white farming sector has also led to the private banking system to grant credits, specially short-term loans to the white farmers. The operations of the private banks will be discussed when we come to the supply of credit.

Table 5.3 Purposes for which Credit was Granted to White Farmers

	1969 (\$)	15 months ended 31-3-71 (\$)
Purchase of land	1,411,324	2,439 354
Erection of buildings	112,234	170,059
Erection of fencing	164,620	130,818
Construction of dip-tanks/spray races	9,620	9,710
Construction of water and soil conservation works	13,630	39,166
Sinking of wells and boreholes	15,382	24,332
Irrigation works and equipment	125,000	197,125
Repayment of bonds:		
Land Bank	269 302	203,247
Others	176,830	184,517
Payment of sundry liabilities	54,566	38,254
Purchase of livestock	1,307,530	1,470,893
Purchase of implements	640,634	625,222
Crop production expenses	<u>11,262,116</u>	<u>11,649,906</u>
	<u>\$ 15,562,788</u>	<u>\$ 17,182,603</u>
<u>Three Categories of Loans</u>	\$	\$
Long-term loans	3,840,766	5,185,549
Short-term loans	9,329,680	8,407,895
Drought Relief loans	<u>2,392,342</u>	<u>3,589,159</u>
	<u>\$ 15,562,788</u>	<u>\$ 17,182,603</u>

Source: Rhodesia - Report of the Operations of the Land and Agricultural Bank (1971), p. 2.

Turning our attention to the demand for credit in the African sector, we can also postulate that the African peasants needed credit for a variety of purposes including buying of land as well as for short-term requirements. However, since the colonial government put great obstacles in the way of those Africans who had resources to buy land,¹⁴ and given the fear of the white settlers for African competition in the land and produce markets, any demand for credit by the Africans may have been frustrated. But this by itself could not stop the Africans from demanding more credit.

In his book, Development in Rhodesian Tribal Areas, a Rhodesian economist, A.J.B. Hughes, has denied the need for credit by the African farmers, on rather subjective grounds.¹⁵ He states that there is growing realisation in many quarters that the assumption of credit by individual Tribal farmers is a non-essential prerequisite for agricultural advancement.¹⁶ Hughes emphasizes that the Tribal Trust Land farmers must 'take positive steps to save up money in advance to pay for the agricultural inputs required for more sophisticated agricultural practices',¹⁷

This is an incorrect view. The neglect of the need for credit by Africans has been shown to have had adverse effects on development. Under the so called community development scheme of the colonial government, the TTLs were required to raise revenue by local taxation and fees for certain services.¹⁸ However, due to the impoverishment of these areas, this policy resulted in community services, e.g. schools, being closed down for lack of funds.

Mats Lundahl¹⁹ points out that in a rural economy where incomes are close to subsistence level, credit demand arises for a wide variety of purposes. Lundahl distinguishes two kinds of loans: those taken to protect the borrower against unforeseen contingencies, precautionary loans in the Keynesian terminology, and those taken to cover expenses actually incurred or to be incurred during the loan period. The small farmer is thus more or less constantly faced with the problems of cash flow and risk management without large flows of cash.

There is no quantification of the relative extent of 'precautionary' loans and 'actual expense' loans in the Zimbabwean peasant agricultural sector. Although it is not possible to know the relative importance of the demand for credit for unpredictable events and loans to meet the operating expenses of the households, some popular assets such as live-stock (which is relatively liquid) are kept as a reserve to fall back upon in times of need. In practice, it may be cheaper to go into debt once an unforeseen event has happened. But, it is probable that the demand for precautionary loans was less significant when compared to the demand for loans to meet current expenditure.²⁰

One of the most important categories of loans demanded by the Zimbabwean peasants arose out of the need to purchase capital inputs. The demand for the latter may well have been intensified among Africans during the 1930s since the Land Apportionment Act of 1930 (Cf, Chapter 3) put a definite limit on the land available for settlement by the Africans, thus creating the necessary conditions for a transformation from the traditional system of cultivation to permanent or continuous cultivation. Given the techniques employed by the African farmers and the type of soils allocated to them, the transformation towards a continuous system of cultivation produced soil erosion and declining land productivity. In these circumstances, in order to raise their output per capita, African farmers needed to intensify production. Although cattle dung and compost manure had begun to be applied to cultivated land during the early 1940s, other means of intensification - fertilizers, improved seed, insecticides, and farm equipment - had to be purchased. As we have seen in the above section household savings in the African sector presumably were invariably low. In an analysis of the Rhodesian situation, Montague Yudelman observed that 'All available evidence indicates that net returns after cash out-lays for supplies (especially fertilizer) are higher than when producers do not use these supplies.'²¹ According to an estimate of the Native Land Husbandry Act of 1951, a farm holding of eight cultivated acres with six head of cattle and sixty acres of grazing land was expected to yield a profit of £98 if the producer uses £22 worth of fertilizer. But, in 1960, less than 3 per cent of the producers in the African areas used fertilizers.²²

Thus, we may safely conclude that the demand for credit for agricultural production purposes among the Africans (both APAs and TTLs) was quite high judging by the needs of the African farmers to borrow in order to purchase capital inputs. Of course, this postulated high demand by African farmers for productive credit may in practice be lessened somewhat if one takes into account the general lack of knowledge about investment opportunities and managerial skills which make the peasants fail to take advantage of the agricultural incentives which are generally available to the white farmers and also to the few progressive APA farmers. In addition, the peasant is not likely to be a dynamic risk-taker because any unsuccessful innovation in his sphere of production is likely to lead to starvation among his family given the subsistence nature of his farming enterprises, (To be discussed in detail in Chapter 7.)

The Supply of Credit

In general there are two types of credit markets in underdeveloped countries: the informal credit market and the formal credit markets. The former are usually operated by moneylenders (generally under unwritten contracts), but their presence is quite widespread in many poor peasant societies. In the Rhodesian colonial experience these sources of loans are noticeably lacking so that the African peasant farmers had no choice but to seek credit in the formal credit markets. There are as yet no studies exploring the reasons why the informal credit markets did not mushroom as they have done elsewhere. However, it is generally known that the creation of the African reserves under the strict surveillance of the colonial administration prevented the emergence of the informal money markets. Firstly, from the early years of colonial rule, a practice quickly grew up whereby an inadequate level of cash income from the sale of surplus produce could be supplemented by income from wage labour. Secondly, the relative lack of storekeepers (who could afford to offer consumer credit) in the African reserves meant that most consumer goods and agricultural equipment were purchased in the distant urban areas and mines, forfeiting close contacts between the possible borrowers and the money lenders necessary for the development of an informal money market.²³ Under these circumstances there were no informal money markets in Rhodesia. Thus,

Yudelman has written: ²⁴

The only avenue open for the average producer to acquire capital is through the sale of his labour or his cattle or by borrowing from public lending agencies created to meet his needs.

However, as will be seen, discrimination in the extension of credit from the formal sector meant that African farmers were severely constrained in their development. Giovanni Arrighi has noted: ²⁵

... the extension of credit (which could possibly come only from European sources) to African farmers was hampered and therefore a constant lack of financing was bound to hold back their development,

In this section we shall discuss the supply of formal credit, i.e. institutional facilities of credit in both the European and the African agriculture. As will be seen, dualism and its attendant inequalities in the land market was extended to the provision of credit.

Institutional Sources of Credit in the European Sector

Organized agricultural credit in Rhodesia began with the establishment of the Land Bank in 1912, with a share capital of £ 250,000,-. The aim of the Land Bank was to make credit facilities available to persons of European descent only. ²⁶ Bank loans up to £ 2,000 for the purchase of farms, livestock, and other agricultural equipment were made to white farmers. ²⁷ The Land Bank was replaced by the Land and Agricultural Bank of Southern Rhodesia which was established in 1924.

As can be seen in Table 5.4 the number of loans granted to white farmers increased by 6.5 times from the 1924-30 period up to the 1966-71 period. (The number of white farmers rose from 2,355 in 1921 to 5,700 in 1965.) ²⁸ (The drop in the number of loans during the 1930s and early 1940s can be explained by the depression of the early thirties and the strain in the economy caused by the war in the early forties.) The amount loaned increased by 28 times from the late twenties to the late sixties. Thus, on its dissolution in 1971, the Bank directors went on record to say '... the Bank served the agricultural community with the understanding and efficiency, and has done more, probably, than any other organisation to settle men on the land.' ²⁹

Table 5.4 Loans Granted to Farmers by The Land and Agricultural Bank,
1924 - 1971*

Period	Number	Loans granted	Owing by farmers
		Amount	at last date
		\$	\$
1924 - 30	1,765	2,604,414	1,716,874
1931 - 35	964	939 800	1,909,974
1936 - 40	717	1,055,166	1,716,970
1941 - 45	411	806,464	1,054,354
1946 - 50	2,407	4,875,106	2,801,538
1951 - 55	4,599	11,502,600	6,002,512
1956 - 60	6,388	21,568,774	11,598,814
1961 - 65	10,302	51,726,884	22,013,132
1966 - 71	11,472	73,177,499	31,923,085
(31st March)			
	<u>39,025</u>	<u>\$ 168,256,707</u>	

*) The above figures do not include loans granted by the Bank in respect of the various schemes and funds administered on an agency basis.

Source: Rhodesia - Report of the Operations of the land and
Agricultural Bank (1971), p. 3.

The Land and Agricultural Bank as a statutory organisation reflected government policy and exclusively served European farmers. The first effort to provide credit facilities for African farmers was not made until in 1945, when the Land and Agricultural Bank initiated a scheme of advancing loans to Africans in the African Purchase Areas. However, these loans were not for the initial purchase of land and capital inputs as was the case with European farmers, but they were limited to permanent improvements and could not exceed two-thirds of the value of the property (Cf. below).

Other public sources providing white agricultural credit included the Agricultural Assistance Board, the Farm Irrigation Fund, and the Agricultural Diversification Fund. The last two were established after the Unilateral Declaration of Independence (UDI) in 1965 in order to assist with diversification of farming activities. But in terms of superseding the Land and Agricultural Bank, the Agricultural Finance Corporation (AFC) was established in 1972. Like the former organisation, the AFC was

responsible for the control and administration of all government sponsored credit, except some funds made available to African farmers. The primary aim of the AFC was to provide credit to farmers confining itself mainly to the European farming sector. Thus, apart from an insignificant loan arrangement on some 'water developments' among APA farmers (where the tenure system permits to offer some collateral for loans), the AFC did not offer any credit facilities to farmers in the Tribal Trust Lands.³⁰

The AFC was the agricultural sector's main source of long-term development loans. The long-term loans provided by the AFC, and prior to its establishment by the Land and Agricultural Bank, rose from R\$ 14.7 million at the end of 1968 to R\$ 24.3 million at the end of 1973.³¹ By 1975, the AFC's long-term loans amounted to R\$ 24 million outstanding.³² The AFC also provided short-term loans along with other institutions, especially the private banks.

The commercial banks have been an important source of short-term credit for the white farmers. These credits were supplied either directly by the private banks or through the extension of the suppliers' credit by commercial companies and cooperatives. Short-term credit for farming was mainly in the area of financing cropping activities. Tables 5.5 and 5.6 show the relative positions of the three institutions in the provision of short-term credit.

As shown in the two tables, the government sponsored short-term credit (AFC) increased its stake in the 1965-1975 period, although there was a clear dominance of private funds, notably from commercial banks. If one takes into consideration that figures advanced by the commercial suppliers and cooperatives are themselves largely financed through commercial bank overdrafts, and/or discount houses, the declining share of pure bank credit in favour of suppliers' credit probably reflects nothing more than a shift from direct to indirect financing on the part of the banks. Taken together, the commercial banks and discount houses account for two thirds to three quarters of all short-term credit accruing to the European farming industry.

Table 5.5 Short-term Credit Extended to White Farmers (R\$ '000)

End of Period	Agricultural Finance Corp. (Short-Term loans) ¹	Commercial Banks (Advances)	Suppliers' Credit ²	Total
1965 Dec.	9,056	27,066	12,636	48,758
1966 "	10,022	23,726	10,926	44,874
1967 "	11,812	20,344	10,942	43,094
1968 "	11,546	25,112	13,550	50,208
1969 "	11,216	24,530	17,105	52,851
1970 "	12,159	28,186	19,235	59,580
1971 "	13,494	32,804	26,603	72,901
1972 "	14,824	33,678	24,238	72,740
1973 "	14,619	36,309	29,003	79,931
1974 "	18,535	45,109	34,415	98,059
1975 "	26,222	51,917	33,014	111,153
1976 "	30,819	54,227	36,338	121,384
1977 "	36,751	47,753	33,264	117,768
1978 "	33,770	51,553	36,218	121,451

Notes: 1) Figures prior to April 1, 1971, relate to Land and Agricultural Bank only.

2) Commercial Companies and Cooperatives,

Source: Zimbabwe Rhodesia - Supplement to the Monthly Digest of Statistics, January, 1980.

Table 5.6 Volume (\$ Million) And Structure (%) by Origin of Short-Term Credit to White Agriculture, 1965, 1971 and 1975

Origin	1965		1971		1975	
	\$m.	%	\$m.	%	\$m.	%
Agribultural Finance Corp.	9.1	18.6	13.5	18.5	26.2	23.6
Commercial Banks	27.1	55.5	32.8	45.0	51.9	46.7
Suppliers' Credit	<u>12.6</u>	<u>25.9</u>	<u>26.6</u>	<u>36.5</u>	<u>33.0</u>	<u>29.7</u>
Total:	48.8	100.0	72.9	100.0	111.1	100.0

Source: Hume (1977), Table 11.

Institutional Sources of Credit in the African Sector

The sources of credit available to African farmers have been the public financial institutions sponsored by the government. Rhodesian commercial banks have never had any lending facilities to African farmers;³³ the only exception to this rule was the African Loan and Development Trust (a private commercial finance company) which extended an insignificant amount of loans to APA farmers. (Cf. below.) In this sub-section, we shall assess the volume of credit going to the Africans from these institutional sources. As will be seen, only a very small section of the African farmers was reached by this public credit and the volume of these loans was low, especially when contrasted with the loans obtained by the white farmers. In the last part of this sub-section we list the reasons for the low volume of credit going to the African farmers.

Unlike in the European farming sector, where credits were made available from 1912 onwards to purchase farms, livestock and farm equipment, no loans were made available to Africans until 1945, when the first lending programme was initiated under the Land and Agricultural Bank. The latter began to make advances to APA farmers (the only farmers who could use land as collateral). But the APA farmers never had loans to start new farms. The 1945 scheme stipulated that the borrower must have completed a three year probationary period when taking over a new farm. The loans were limited to permanent improvements and could not exceed two-thirds of the value of the property acquired.³⁴ The size and scope of the programme was very small. In its first ten year period less than seventy farmers received a total of less than £ 6,000.³⁵

In 1958, the government initiated a credit program designed to meet the needs of all African producers, i.e. including the peasant farmers in the TTLs. The program was operated with an initial capital of £ 10,000 supplied by the Native Development Fund, but the area of benefit was restricted to only ten districts and four African Producer Cooperative societies.³⁶ This fund was augmented in 1959 by £ 66,000 supplied by the United States International Cooperation Administration. However, the size of the credit program was still inadequate. By the early 1960s, the total amount available for lending to African peasant farmers

'had not exceeded £ 105,000 amounting to less than a few shillings per family in the African areas,'³⁷ The additional funds enabled the Native Development Fund to extend its credit facilities, at least in theory, throughout the country but these facilities only reached a few, selected, 'progressive' African farmers.³⁸

The African Loan Fund (A.L.F.)³⁹ was established in 1964 and its operations were put under the control of the Cooperatives and Loans Fund Branch of the Ministry of Agriculture. The APA farmers could obtain short-term loans of up to £ 50 from the A.L.F. at 7 per cent interest, and long-term loans of up to £ 300 at 7.25 per cent interest.⁴⁰ Peasant farmers in the TTLs could obtain short-term loans up to £ 35 at 7 per cent interest, and medium loans up to £ 100 at 7.25 per cent interest, but they had no long-term loans.⁴¹ The A.L.F. in practice insisted upon an elaborate selection of African farmers, the stated aim being the encouragement of a more rapid advance in the adoption of more modern agricultural techniques. The A.L.F. loans were usually in kind. Cooperative societies were often the most common channels for processing these requisitions.

There existed non-governmental forms of formal credit as well. By 1970, the Catholic Church had established thirteen credit unions among peasants in Zimbabwe with a membership of 1,746 and a share capital of £ 40,769.⁴² These unions offered credit to their members for the purchase of seed, fertilizer, and capital equipment, notably ploughs, although money could be drawn for the purpose of children's school fees and brideswealth.⁴³

The other non-governmental institutional source of credit available to African farmers was the African Loan and Development Trust (A.L.D.T.), which extended credit to APA farmers in certain parts of the country. The A.L.D.T. was a private commercial finance company which specialised in a small proportion of APA farmers (only 15.4% of the APA farmers had benefited from the A.L.D.T. loans by 1976). During the 1976/77 season, a sum of R\$ 602,623 A.L.D.T. loans was outstanding. Of these 1,277 in Mashonaland, 338 in Midlands and 163 in Manicaland provinces.⁴⁴

The basic conclusion to be drawn from the above data is that the volume of loans going to the African farmers in Rhodesia was quite low. Thus, the 680,000 peasant farming households received no more than about R\$ 1 million of credit extended in 1975 (i.e. less than R\$ 2,00 per household) as against some R\$ 111 million extended to some 6,200 white farmers (an average of about R\$ 18,000 per farmer).⁴⁵ This inequality in the distribution of agricultural finance is aggravated by the fact that between 1965 and 1974, the government spent R\$ 66 million on black agriculture, and R\$ 436 million on European agriculture.⁴⁶ We shall now turn to the reasons behind dualism in the agricultural credit market of Rhodesia.

Historically, there were several reasons for the low volume of credit available to the African farmers, viz: (1) the preservation of the traditional tenure system by policy measures and outright discrimination in the allocation of government credit; (2) lack of collateral, particularly in the African peasant sector; (3) high default rate; (4) lack of interest in repaying loans; (5) lack of the ability to repay loans; (6) lack of adequate extension services to give information on the new opportunities to invest.

From the discussion of dualism in the land market we know that the preservation of the traditional system of land tenure and legal limitations to the transferability of individually owned land in the APAs generally made credit extension to Africans difficult. This indirect way of checking the spread of credit facilities was further reinforced by discriminatory measures in the allocation of government credit. A low priority was given to the African agricultural sector by those responsible for the allocation of public funds. Thus, only R\$ 270,812 of the A.L.F. loans up to May 1977 was outstanding,⁴⁷ This was in sharp contrast to the AFC which made loans to European farmers, and which distributed about R\$ 30 - R\$ 40 million annually, and had R\$ 110 million outstanding at the end of 1977.⁴⁸ (The A.L.F. ceased its operations in 1977, leaving virtually no government agency that provided loans to African farmers in the TTLs.)

Given the land tenure system prevailing in the African sector, one of the main reasons for the low level of credit is probably to be found in the tendency towards risk minimization where loans are extended only to those farmers who are considered safe. The failure of commercial banks and also, to a certain degree, the public institutions, to provide credit is probably due to the fact that Africans had no marketable land, or title to land, or other assignable property acceptable as security on mortgages.⁴⁹ Thus, as shown above, the Land and Agricultural Bank loans to Africans in 1945 did not apply to African peasant farmers in the TTLs on grounds that the latter lacked collateral. The Rhodesian private banks virtually gave no loans to African farmers as a whole.

The third reason for the low level of loans going to the African sector is to be found in the high default rate on loan repayment. With regards to the A.L.F. loans, up to 1965 9,500 peasants were in arrears with a total of £ 60,194, and by 1967 13,943 peasants were in arrears to the amount of £ 236,031.⁵⁰ One of the main reasons for this high default rate was connected to the bureaucratic functioning of the public credit programs. In fact the bureaucratic procedures in giving loans and making arrangements for recovering payments conflicted:

Applications for loans had to be recommended by the local Agricultural Officer and much of the subsequent administration of these financial operations appears to have fallen on the shoulders of the agricultural extension service. There was, however, no clear-cut procedures for the recovery of outstanding loans. When it came to recovering repayments which were overdue, many members of the agricultural extension service expressed the opinion that this task was incompatible with their role as extension agents.⁵¹

A similar bottleneck was seen when the A.L.F. channeled its funds via cooperative societies. The A.L.F. ceased to deal with the actual administration of these loans and instead began to grant 'communal loans' to cooperative societies for their individual members. From the A.L.F. point of view, the recovery of funds was now up to the societies as corporate bodies. However, many societies declined the duty of recovering loan payments, and consequently failed to make the necessary repayments if and when such funds were not forthcoming from their members.

The default rate can also be discussed in terms of the responsibility to repay these loans. Many underdeveloped country studies carry reports 'that farmers do not consider the repayment of public loans a compelling moral obligation.'⁵² In such a situation, the rate of repayment will be low unless there are enforceable economic sanctions against default. In Zimbabwe, the fourth reason for the low level of credit is connected with the lack of interest in repaying loans and the fact that the only sanction was that the farmers who had defaulted could not get new loans. For example, the A.L.F. simply stipulated that 'except in very exceptional circumstances, no further loan will be given to the recipient of a previous one, unless an earlier loan has been repaid',⁵³ The lack of interest in repaying loans can also be due to lack of 'efficient' ways of creating close working relationship between the lenders and the borrowers. For instance, to prevent default the government decided in 1969 to brand the African cattle so that the branded cattle could act as collateral.⁵⁴ This was strongly resented by African peasants who feared that the brand would make the government the owner of their cattle. (Such fears could be justified given the living memories of African cattle looting by the settlers during the early years of colonization discussed in Chapter 3.) As a result only 21 per cent of all peasants who had taken out loans in 1968 did so in 1969, and the total money paid out in loans dropped from £ 233,000 to £ 48,965.⁵⁵ In turn, this drop in loans greatly reduced the input of fertilizer; in some APAs crop yields fell by 75 per cent,⁵⁶

The fifth factor in the list of the possible causes of the low volume of credit in the African agricultural sector is directly connected with the consequences of dualism. Because of the falling productivity levels and erosion problems in the African rural areas, there was the lack of the ability to repay the loans. (The consequences of dualism will be analysed in Chapter 7.)

There was finally the obvious problems connected with the lack of adequate extension service personnel to give information about the new opportunities to invest, adoption of new technologies and convincing the African farmer that the expected yield justifies additional risk. (Evidence from elsewhere indicates that the lack of information and risk aversion often

retard innovation among small farmers.)⁵⁷ The farmer is only likely to start borrowing in larger amounts in the event that his capital requirements increase. This may come about if, say, he starts to clear more land, use more fertilizer or improved seed, and so on.

For reasons given above, the credit programs in Rhodesia reached only a small section of the African farmers and sooner or later ceased to operate.⁵⁸ The dualistic conditions in the land market and direct discrimination in the allocation of credit are the main reasons for dualism in the credit market. As a result there was a general lack of credit-worthiness in the African sector which gave rise to problems connected with lack of collateral, high default rates, bureaucratic deficiencies and the lack of adequate extension services. Thus, from the standpoint of credit programs, the principles of good management in terms of recovering their costs and avoiding default, might have compelled them to give loans only to those clients who had collateral and were expected to be solvent when it came to repayment of loans,

Interest Rates

The discussion in the above section shows that while the European agricultural sector received ample amounts of credit from both the private banks and the public financial sources, there was a scarcity in credit going to the African farmers. Given that the latter also had a low level of savings, an appropriate tool in analysing the case where interest rates are determined by the element of scarcity in funds as in the Rhodesian African rural sector would have been the role of time preference.⁵⁹ In this case, the extreme shortage of funds among the peasants makes them blind to any high interest rates payable later, usually after the harvest, because in the slack season they (the peasant families) must get the loans in order to survive.⁶⁰ Consequently, their rate of time preference is quite high. Irving Fisher has defined time preference as 'the ... excess of the present marginal want of one more unit of the present goods over the present marginal want for one more unit of future goods.'⁶¹ Thus, the Fisherian theory of time preference can be used to find one of the most important determinants of the rate of interest, though it must be stressed that its application

is limited when it comes to a situation where the accessibility to credits and the rate of interest are more or less determined by government regulatory measures. This point will be illustrated by the rather low rate of interest in the Rhodesian rural money market and the fact that these interest rates have remained relatively fixed for several years at a time in spite of the scarcity of credit funds.

The interest rate differentials between European loans and African loans were not high. Because of its small size, the African Loan and Development Trust overheads were high (high transaction costs) so that it charged 10% interest on its loans. The now defunct African Loan Fund had charged 7,5% annual interest on its short-term loans, and 8% medium and long-term loans.⁶² On the other hand, the Agricultural Finance Corporation (the main government agency loaning to white farmers) charged 6,5% on long-term loans, and 7% for short-term loans, fixed for all customers. There was also a category of development loans based on a 5% interest rate. The interest rates for white farmers charged on commercial banks (which can also be taken as minimum for suppliers' credit), range from a statutory minimum of 7,5% to 9% depending on the risk factor.⁶⁴ The base rates have tended to remain fixed for several years at a time.

When the averages are taken into account, the interest rate prevailing in the European agricultural sector was 7,25%, compared with 8,5% in the African sector. However, with a 3,1% per year of inflation rate of agricultural output in the decade up to 1970, these rates would imply real rates of interest of around 4,15% and 5,4%, respectively. Thus, the African farmers have paid marginally higher interest rates on both government and commercial credit markets than white farmers. During the 1970s lending rates remained virtually unchanged for all lending institutions (commercial banks, building societies, the Agricultural Finance Corporation, etc).⁶⁵ But, given that the nominal rates between 1970 to 1979 remained the same as during the earlier decade whereas the inflation rates between 1970 and 1975 period were around 7,6% per annum,⁶⁶ and by 1979 they were around 10-11%,⁶⁷ then the real interest rates on lending were negative.

In sum, though the African lending rates were slightly higher than those of white farmers, the interest rates were not at all important in the allocation of credit since they were determined by government regulation and remained unchanged for long periods at a time.

Conclusion

As the analysis in the present chapter shows, the savings and demand for agricultural credit in Rhodesia were influenced by the dualistic structures in the land market. Thus, assuming that the propensity to save is a function of per capita farm income, the European farmers have had better possibilities of savings than the African farmers, because the per capita output levels of the latter were lower than those of the former. In addition, white farmers had a high demand for credit, as demonstrated by the pressure to create institutions to meet this demand. It is probable that there was also a high demand for loans in the African agricultural sector, judging from the needs of these farmers to purchase farm inputs.

The dualistic tendency in the agricultural credit market becomes clearer when we move to the supply of credit to the European farmers on one hand, and to the African farmers on the other. Credit extension to the white farmers was made available from 1912 onwards, and its volume increased steadily throughout the colonial period. On the contrary, there were no credit facilities available to African farmers until 1945, when a small section of the APA farmers were given credit for land improvements only. The majority of the African peasant farmers were not considered for loans until the 1960s, when the African Loan Fund was formed. In practice this scheme also reached just a small fraction of the African farmers.

The reasons for dualism in the agricultural credit market of Rhodesia are closely connected with the preservation of the traditional tenure system for the majority of African farmers in the Tribal Trust Lands. In addition, direct discrimination in the extension of credit facilities in the African sector resulted in a low volume of funds available for development in the

African sector. Other reasons for the low level of credit directly follow from the dualistic structure of the land market and discriminatory tendencies. Dualism in the credit market is closely connected and dependent on dualism in the land market.

As the analysis of interest rates shows, lending rates were not important in the allocation of credit, since they were government controlled and remained fixed for long periods. Thus, like other factor markets in the Rhodesian case, the credit market was also controlled by government policy both in the allocation of the credits and in the determination of the interest rates.

1. There were fluctuations, especially during the depression years of the early thirties and also during the second world war when many white farmers were conscripted into active military service.
2. U.N. (1980), p. 38.
3. Rhodesia - Census of Population (1969), pp. 29-40.
4. Saul (1980), p. 10.
5. Arrighi (1970), p. 214.
6. Ibid.
7. Rhodesia - Census of Population (1969), pp. 3-4.
8. Ibid., pp. 6-7.
9. Palmer (1977:1), p. 82.
10. Ibid.
11. Ibid., p. 147.
12. Ibid., passim.
13. Newly and Rowan (1954), pp. 124-25.
14. Loney (1975), p. 54, and Tumba (1980), p. 398.
15. Hughes (1974), p. 275.
16. Ibid.
17. Ibid.
18. Nicolle (1971), p. 3.
19. Lundahl (1979), p. 508.
20. This is probably characteristic of most poor peasant economies. Lundahl found that the precautionary loans were 'probably negligible as compared to the volume of actual expense loans' in the Haitian case, (Ibid., p. 509.)
21. Yudelman (1964), p. 157.
22. Ibid.
23. For a discussion on the effects of the legal environment on the pattern of Internal Trade, see Mahlahla (1980).
24. Yudelman (1964), p. 157.
25. Arrighi (1973), p. 347.

26. Palmer (1977:1), p. 82.
27. Ibid.
28. Ibid., p. 91.
29. Rhodesia - Report of the Operations of the Land and Agricultural Bank (1971), p. 6.
30. Ibid.
31. Hunt (1976), p. 86
32. Hume (1977), p. 13.
33. Tsumba (1980), p. 5.
34. U.N. (1963), p. 36.
35. Yudelman (1964), p. 158.
36. U.N. (1963), p. 36.
37. Yudelman (1964), p. 158.
38. U.N. (1963), p. 36.
39. The African Loan Fund (A.L.F.) is sometimes called the Agricultural Loan Fund. Both names appear frequently in official publications, but we shall use the term African Loan Fund.
40. Weinrich (1975), p. 32.
41. Ibid.
42. Weinrich (1975), pp. 31-32.
43. Ibid., p. 32.
44. Nziramasanga (1980), p. 57.
45. Hume (1977), p. 14; Riddell (1980), p. 60.
46. Riddell (1980), p. 60.
47. Nziramasanga (1980), p. 57.
48. Ibid.
49. Tsumba (1980), p. 398.
50. Weinrich (1975), pp. 32-33.
51. Hughes (1974), p. 276.
52. Long (1973), p. 83.

53. Hughes (1974), p. 277.
54. Weinrich (1975), p. 33.
55. Ibid.
56. Ibid,
57. Long (1973), p. 82.
58. In a study of Haiti, (Lundahl (1979), p. 546) Lundahl found that formal credit had a sheer physical impossibility of reaching more than a tiny section of peasant farms. The reason usually given for the failure was administrative difficulties and the general lack of trained personnel. The bureaucratic actions of the government in Haiti had caused the lack of the necessary extension service personnel, lack of funds as a result of the lack of positive government interest in agriculture, and corruption as well as embezzlement of funds, (Ibid., p. 547.)
59. Lundahl (1979), pp. 513-520.
60. Ibid, p. 514.
61. Fisher (1932), p. 62.
62. Hughes (1974), p. 277.
63. Hume (1977), p. 15.
64. Ibid.
65. Zimbabwe Rhodesia - Supplement to the Monthly Digest of Statistics (Jan. 1980), Table 34.
66. Hume (1977), p. 15.
67. Tsumba (1980), p. 398.

6. THE AGRICULTURAL PRODUCE MARKET

The discussion in the previous chapters demonstrates the existence of dualism in the factor markets based on the institutional and political mechanisms created by the colonial governments in the land market. As shown in Chapter 3, a massive movement of African peasants from lands alienated to whites took place during the first three decades of the present century. A shortage of land arising from alienation policy, high rentals and other charges on those who had remained as tenants in the white designated areas, compelled African peasants to move into the reserves. This land concentration in white hands and the progressive decline in land quality in the African reserves gave rise to a sharp increase in the African participation in the labour market.

The persistence and aggravation of land shortage was irresistible in spite of attempts by African peasants to alter the pattern of their productive investment following the appearance of population pressure on the land. During the 1920s, the rate of growth of the African-owned cattle fell to half of what it had been fifteen years earlier, while greater attention was being paid to improving the quality of the stock as witnessed by an increase in the number of grade bulls used.¹ Wheeled vehicles (wagons and carts) were substituted for traditional sleighs which had caused soil erosion besides making marketing from distant areas uneconomic.² The practice of manuring in order to improve the fertility of land had become 'common' by 1940. But these changes were not significant enough to affect the trend towards a general shortage of land.

In the present chapter, we will discuss the development of the agricultural produce market, paying particular attention to the institutions and price policies that affected the marketing of the produce of European farmers and African peasants. In the first section we discuss the decline in the participation of the African peasantry in the produce market. As will be seen, developments in the produce market strongly reinforced dualism in the land market, and contributed to unlimited supplies of labour in the economy. In the following two sections, we will give an account of the marketing institutions in the Rhodesian

economy as they emerged after the great depression of the early 1930s, and the discriminatory price policies which were administered under these marketing institutions. Further, these price policies had the effect of limiting the marketing opportunities for African produce. Finally, we analyse the dualistic structure of the transport services in relation to the marketing of agricultural produce.

The Produce Market in An Historical Perspective

As shown in Chapter 1, Zimbabweans produced a wide variety of both agricultural and non-agricultural products (handcraft products) in the pre-colonial period. Although agricultural production was largely geared to subsistence requirements, there also existed a tradeable surplus in the pre-colonial economy. Grain, cattle, goats, and tobacco were among the products that were frequently exchanged. Existing evidence indicates a quick response by Africans to increase their cash incomes through contact with the Europeans.³ The Africans immediately seized the opportunity to sell their products as soon as the colonists arrived:

In September and October 1890 some Shona were already selling a variety of produce, including grain, sweet potatoes, pumpkins, and groundnuts, to the 'pioneers' - as indeed, villagers had done to earlier white travellers before 1890.⁴

In 1891 Percy Fitzpatrick found that the Shona were very keen on business 'and so quick to perceive an opening, that they have broken up fresh ground and planted double crops this year, in order to supply the rush of the white men.'⁵ In the same year a white trader acting for Lobengula (the Ndebele king) was anxious to sell cattle and sheep to whites in Mashonaland.⁶ There is clear evidence for the production for surplus:

In Matebeleland at least one district planted a variety of crops 'considerably in excess of their own requirements, with the express intention of trading', while in Mashonaland the price of some peasant produce took cognizance of high transport costs.⁷

The upward trend in the dependence of the African peasants on exchange with the capitalist sector was noticeable around the turn of the century,⁸ But soon after the turn of the century, it began to show a tendency to decline. The decline of the participation of the African peasantry in the

produce market can be explained by the concept of the effort price. Giovanni Arrighi defined effort price 'as the quantity of labour-time of given drudgery necessary to obtain a unit (measured in real terms) of cash income.'⁹ In other words, the categories of the effort price of participation in the labour market and the effort price of participation in the produce market indicate the effort price of cash income obtainable through the sale of labour-time and through the production and sale of agricultural produce, respectively. Thus, there was an upward tendency in the effort price of African participation in the produce market in the sense that over time a given labour effort in the produce market gave a lower financial return than it had done before. Available official estimates of acreages, yields and population point to three broad trends in African peasant agriculture between 1900 and 1950: a constant grain output per capita of the rural African population and a steady increase of acreage under cultivation, and also to an increase in the rural African population.¹⁰ But the increase in population was more rapid than the expansion of the African areas even though the latter were expanded considerably during this period, 'Available acreage per head declined from around 40 acres to 15 acres.'¹¹

The upward trend in the effort price of African participation in the produce market was due to a combination of many factors, ranging from slumps in prices to the more fundamental change - in increasing dualism in the land market,

In 1903-04 and 1911-12, there was a decline in the price of maize in the order of 30-40 per cent, which by itself must have raised the effort price of participation in the produce market.¹² But the fall in prices received by African peasants was even more drastic than shown by the percentages above, if one takes into account that only 30 per cent of the land assigned to Africans, as against 75 per cent of that alienated to Europeans was within 25 miles of the railway line (and therefore from communication with the towns and mines). It was generally recognized that when railway costs were added grain crops could not bear the costs of more than 15 miles of ox-wagon transport.¹³ We shall return to this in a later section dealing with the effect of transport services on produce sales. However, it is clear that the general movement of the African peasantry into the reserves not

only reduced the land resources available both in terms of size and quality, but also their ability to compete on the grain market was progressively reduced.

In Chapter 3, we showed how white capitalist agriculture was promoted at the expense of African peasant agriculture. But in the short-run, the growth of white farming had some positive effects for the African peasants. Since the stock of European-owned cattle was largely built upon cattle purchased from Africans and thereafter upgraded by the use of purchased bulls, the expansion of European mixed farming and cattle ranching generated a demand for African-owned cattle, whose price steadily rose from £1 - £2 per head around 1905-06, to £4 - £7 in 1909, and to £9 in 1918.¹³ However, this trend was of a temporary nature as the growth of the European cattle eventually became large enough to supply the entire European market and even compete with the African-owned cattle.

A deeper slump in cattle and maize prices occurred in 1921-23. At this time the slump had more far-reaching consequences for African farmers than any previous slump. In 1920, African grain sales to European traders was estimated at 198,000 bags at 10s per bag; in 1921 the average price fell to approximately 5s per bag, at which price sales of grain became uneconomic in many districts, with the result that, notwithstanding a plentiful harvest, only 43,600 bags were purchased from Africans,¹⁴ i.e. a drop of 78% in sales. A similar reduction was reported for sales of African cattle. From an estimate of at least 20,000 head of cattle sold by Africans in 1919 at prices in the order of £7 - £8, in 1921 the demand for African stock declined and by 1922 it had 'practically ceased'.¹⁵ There was a slight recovery in 1924 followed by a short-lived boom that lasted until 1929 when prices collapsed again.

Arrighi rightly argues that these trends implied an upward tendency in the effort price of a given quantity of agricultural produce, particularly for the African peasants and that it therefore led to a reversal in the relative importance of sale of produce vis à vis wage employment as sources of African cash earnings. Thus, whereas at the beginning of the century, 70 per cent of African total cash earnings came from produce sales, by

1932 the figure had fallen to 20 per cent.¹⁶ This change was not just a cyclical phenomenon but rather a 'deep-seated' change based on the development of institutional changes that had taken place in the country. The slumps had resulted in the acceleration of the movement of Africans into the reserves. This is because the financial constraint which the slumps had imposed on the Africans made them unable to meet the land rentals, and other charges to which they were subject to outside the reserves. As seen in Chapter 5, there were no loans available to Africans both outside and within the reserves. Thus, peasant production for the marketable surplus was further curtailed, as the forced evictions of Africans into the reserves (Cf. Chapter 3) were aggravated by falling prices in the produce market.

Marketing Institutions

In the previous section, we have seen the upward trend in the effort price of African participation in the produce market. As will be shown in this section, this trend was reinforced, when in the 1920s white farmers called on the government to establish statutory marketing agencies in order to stabilise and guarantee producer prices and help find domestic and foreign markets for their produce.¹⁷ The slump in prices in the wake of the great depression of the early 1930s made the case for statutory marketing institutions even more necessary. Marketing institutions may be defined broadly to include organisations, established by government or by some other public authority, which set the behavioral rules in the marketing of certain products. The first of these institutions in Rhodesia was the Maize Marketing Board, which was established by the Maize Control Act of 1931, and the Maize Control Amendment Act of 1934.

The main reason for the establishment of the Maize Marketing Board was a sudden decline in the price of maize at the beginning of 1931. (Cf. below.) The Board made it compulsory for all maize marketed in the urban areas (except for sales between Africans in the same administrative area) to be sold to the Board. In other words maize had become a controlled product and the government had established a monopoly of the marketing of maize into urban areas. The Maize Marketing Board functioned up to 1950 when it was replaced by the Grain Marketing Board which added beans, millet, sorghum and groundnuts to the controlled product list. In the post-war

period, there was an increase in the list of products marketed through the Marketing Boards. However, beans were decontrolled in 1959, bull-rush millet (munga) in 1962, and finger millet (rapoko) in 1965,¹⁸ but this did not reduce the tendency towards the greater role of marketing institutions which became more evident in the post-UDI period.

Following the UDI in 1965, the government took an even greater role in agricultural marketing. In a major reorganisation of the marketing institutions in 1967, the Agricultural Marketing Authority (AMA) was set up to administer the statutory marketing boards, all of which had been in existence prior to its formation. The four organisations under the AMA are the Grain Marketing Board, the Cold Storage Commission, the Dairy Marketing Board and the Cotton Marketing Board,

The AMA is a relatively small parent organisation that co-ordinates the activities of the Marketing Boards. It has conducted marketing research for different products, studied the marketing channels, helped co-ordinate pricing policies, advised the government on other marketing policies, and has even been a channel for short-term financing of the four boards.¹⁹ The AMA also became the principal government instrument in stimulating a successful diversification of agriculture, particularly in moving away from a greater dependence on tobacco, but its main activity has been to give the state a stronger influence in agricultural marketing and food supplies.

Thus, in the post-UDI period the Marketing Boards handled more products in their marketing list than before. For example, whereas in 1965 only an estimated 35 per cent of agricultural sales were handled by statutory agencies, in 1973 the latter handled over 70 per cent,²⁰ Since then, further products have come under control such that by 1978 soya beans, wheat, coffee, cotton, and tobacco have been added to the list of controlled products.²¹ The present position of the Marketing Boards is shown in Table 6.1. In terms of sales the Grain Marketing Board is the biggest marketing institution accounting for R\$ 93.8 million in 1975-1976 in sales. But in terms of total fixed capital assets and the number of employees, the Cold Storage Commission is the largest organi-

sation. This is because the Cold Storage Commission runs abattoirs and meat plants throughout the country which usually involves heavier capital investment than is the case with the marketing of grain and other products.

Table 6.1 Basic Statistics Related to The Agricultural Marketing Boards

Boards	Total fixed assets \$m.	Sales \$m.	Number of employees (1973)	Intended Capital Investment 1979-1983 ^d	Estimate of Government Expenditure 1978-1979
Agriculture Marketing Authority	0.01 ^b	n/a	20	5.0	0.05
Cold Storage Commission	26.4 ^e	50.1	2,350 ^f	38.6	
Cotton Marketing Board	5.1 ^a	33.7 ^a	631	8.1	0.75
Dairy Marketing Board	7.2 ^b	25.6 ^b	2,330	11.1	
Grain Marketing Board	6.6 ^c	93.8 ^c	1,995	27.5	

Notes: a = 1973; b = 1978; c = 1975; d = According to Ministry of Finance estimates 1979; e = 1975; f = 3,500 in 1979

Source: Tickner (1977), Table 5.

The other marketing agencies in the order of size in sales and total fixed assets are the Dairy Marketing Board and the Cotton Marketing Board. In sum, there has been an expansion in the activities of the Marketing Boards, but as will be seen in the next section on price policy, one main effect of the statutory marketing institutions was to curb competition emanating from the African producers and, therefore, limit the marketing opportunities of the latter.

The second form of marketing institutions in the Rhodesian economy were the producer associations. The latter usually regulated those products not under the controlled list of the Marketing Boards. Unlike the Marketing Boards, which marketed both the African and European produce, the producers' associations almost exclusively handled white agricultural products. These associations had power to levy fees on growers, regulate prices and set minimum quality standards.²² Besides setting wholesale prices, the producers' associations controlled imports. The most notable of these was the Rhodesia National Farmers' Union (R.N.F.U.), to which all producer associations are members and which wields powers equal to that of any other statutory body. The Rhodesian Oilseeds Association, the Rhodesian Deciduous Fruit Growers Association, and the Rhodesian Tea Growers' Association were all members of the R.N.F.U. One notable effect of these associations is that they improved the prices of the crops they were handling. As Mudziviri Nziram-sanga has recently stated: 'all the crops in which Africans do not have a share of the market have experienced increasing prices, an indication of the success of producers' associations and the R.N.F.U.'²³

The third form of marketing institutions were the cooperatives. The European farmers' cooperatives registered under the Co-operative Companies Act (No. 34 of 1925) are the oldest cooperatives in the country. These cooperatives have always been free from direct government control. About twenty-two European farmers' cooperative companies are registered under the Co-operative Companies Act and a few long established European consumer cooperatives are incorporated in terms of the Act (Cap. 223). The European farmers' cooperatives trade farm inputs as well as consumer goods.²⁴ Their trading stores are located in the urban areas so that they take advantage of business from the African population as well. Economies of scale as a result of volume buying also results in substantial savings. However, since the European cooperatives did not concentrate on the marketing of agricultural produce, our discussion will be limited to an examination of the African cooperatives.

In the last decade, cooperatives have become one of the important channels through which African produce is sold. The African cooperative movement in Rhodesia was directly initiated by the government. The number

of African farmer cooperatives grew from 2 in 1956 to 310 in 1976, with a total membership of 41,258 and an annual sales turnover of R\$ 5.26 million.²⁵ Generally, the stated purpose of the cooperatives was to serve as collection agents for controlled products and arrange for their delivery to the Marketing Boards. Some cooperative societies concentrate on the marketing of cotton and the supply of agricultural inputs to cotton growers.²⁶ Some societies even supply general consumer goods, and a few have opened supermarkets for their members. Others supply inputs to farmers.²⁷ The significance of African cooperatives in the marketing of agricultural produce can be shown by the following figures: In the 1975/76 season, 20 per cent of the total sales from African farmers went through the cooperatives, as did some of the maize (17%), coffee (42%), sorghum (49%), wheat (51%), and unshelled nuts (53%).²⁸

However, because African cooperatives were required by the government regulation to charge a commission for their services over and above the normal marketing expenses, membership became more costly than direct registration with the Marketing Boards. The emphasis on the regulatory role by the government resulted in the impression that the cooperatives were actually not run or even owned by the membership. As a result, the larger African producers who could sell directly to the Marketing Boards, invariably did so, thus leaving the cooperatives with little volume.²⁹

In this sense the African cooperatives have not been efficient in the marketing of agricultural produce. (This does not mean that the co-operative movement has no future in Zimbabwe. On the contrary, with the relaxation of the stringent controls which were operative under the colonial regime and the improvement of efficiency in their management, cooperatives may become one of the most important channels in both the marketing of produce and the distribution of credits.)

The discussion in this section shows that government-sponsored marketing institutions exerted an increased influence in the produce market. This trend started in the early 1930s when the government intervened in the marketing of maize and cattle and by the 1960s almost all the country's major agricultural products had come under the control of the Marketing

Boards. Other public marketing agencies, such as the producer associations and cooperatives also had direct government involvement as well. Whilst it is true that the marketing institutions described above have had an important role in the development of agriculture in Rhodesia, this development has discriminated against the African producers. As will be seen in the next section, which deals with price policies under these marketing arrangements, the basic trend was towards discrimination in favour of the white produce, a factor which created dualism in the produce market.

Discriminatory Price Policy

In the above sections, we have shown how the competitiveness of the African peasantry on the produce market was restricted in a number of ways. Through dualism in the land market, Africans were confined to the poorer land resources of the country, and as a result of population pressure and overstocking in the reserves, there was a progressively decreasing productivity in African agriculture. In a more direct way segregation and non-competition between whites and blacks in the produce market were achieved through the operation of the marketing institutions. In this section, we turn to the question of how African sales were discouraged through a discriminatory price policy. Discriminatory prices were administered through a series of measures, notably allocation of quotas for maize marketing, and various levies charged on the African sales.

The Quota System

The quota system in the sale of maize crop was first administered under the Maize Control Act of 1931. This system was put into action in response to a drastic fall in the export prices of maize in 1931, when the world price of maize had suddenly fallen from around 10s to 12s per bag to one equivalent to 4s 3d per bag, which was less than the cost of production for Rhodesian farmers.³⁰ The aim was to compel the Rhodesian producer to dispose of his maize crop through the Maize Marketing Board, which fixed a selling price inside Rhodesia at a level sufficiently high in relation to the export price to provide the local grower with an average return per bag, based on both local and export sales,

which was adequate to keep him in production. In effect, the government instituted a two price system, one for the local market and the other for the export pool. The amount of output allocated to the local pool was that amount deemed adequate to meet local demand. The price paid to the local pool was 30 to 50 per cent above world prices.³¹ Thus, the local pool constituted a support price scheme for producers. The remaining surplus was sold to the export pool and sold at whatever prices could be realised in the world market.

Now let us look at how the different categories of producers, namely the small-scale white producers, the large-scale white producers and the African producers as a whole were allocated quotas in the local and export pools. The small-scale European producers were allocated a quota of up to 80 per cent of all their deliveries to the high priced local market, whereas large-scale European producers were given around 20 per cent of all their deliveries in the internal market. This may be justifiable on grounds of encouraging the small-scale European maize growers to remain on the land. The African producers (both APA farmers and TTL peasants) were lumped together and only 20 per cent of their deliveries were allocated a quota in the high priced internal market.³³ In other words, since the African producers were invariably small-scale producers, they were largely excluded from the price incentive enjoyed by the small-scale white farmers. If there had not been a discriminatory price policy, the African producers would also have received higher prices for 80 per cent of their deliveries to the internal market instead of only 20 per cent. There can be little doubt that the quota system protected the small-scale European farmers against African competition by restricting African participation in the high price internal market.

The implications of the maize quota system for dualism are quite obvious. Maize was the most important grain crop produced by both African and European farmers up to the 1950s when tobacco became the leading crop. Under these circumstances a differential price policy which discriminated against the farm output of the country's majority farmers had adverse effects on productivity. Of course, this is not to argue that more rapid

growth in agricultural yields and production is due solely to favourable price policies. In the Rhodesian case, a clear separation of land settlement between Africans and Europeans made it possible to direct capital expenditure in roads, dams, communication systems etc, to widen the differential in overall productivity of European and African agriculture.

The discriminatory price policy through the allocation of quotas was in operation up to 1940. With the Maize Control Amendment Act of 1940, a new price system was instituted whereby the government guaranteed a fixed price to the producers which was based on the estimated cost of production plus some profit.³⁴ In 1943, the government guaranteed a price of 13s 6d, and a bonus of 2s for all maize delivered to the Maize Control Board provided that 'it was grown under certain conditions of sound farming practice.'³⁵ The conditions were that the area under maize should be protected from soil erosion, and that in the first season one third of the area (and one half in the following season) under cultivation should be planted with a green manure crop. These conditions obviously excluded the Africans, since the digging of contour ridges for the protection of soil erosion only started seriously after 1951, under the Native Husbandry Act,³⁶

If the principal goal of marketing in an underdeveloped economy is to achieve the greatest possible participation by producers in the cash economy - the maximisation of the catchment area³⁷ - the marketing of produce in Rhodesia under the quota system on maize during the 1930s achieved the opposite, i.e. it narrowed the marketing of agricultural produce by the African majority. This tendency was also reinforced under the marketing levies applied to African products during the 1950s.

The Marketing Levy

Under the Marketing Board operations a marketing levy was administered on produce sales from African farmers. The levy was directly charged on various types of African agricultural produce marketed through the official channels. The levy charge could be up to 15 per cent of the selling price, but in practice it rarely reached this level.³⁸ The

money raised through this source was paid to the Ministry of Internal Affairs' African Development Fund for use in the general development of the TTLs. Like the allocation of maize quotas described above, the levy, as a form of discriminatory tax, tended to reduce the receipts from the sale of African agricultural produce. Therefore, the marketing levy most probably served to widen the gap in profitability between the white and the black farming sectors. In this sense dualism was further strengthened in the produce market.

The European producers could sell their agricultural output directly to the Marketing Boards so that they did not need to pay the marketing levy. They graded their grain and delivered it in bags to the depots established along the railway line. In the case of maize the Ministry of Agriculture prescribed producer prices every season. The maize crop delivered to the Grain Marketing Board was then purchased at this price and an 'advance' pay out was made for products delivered at the beginning of the harvest period. The advance was usually less than the prescribed price and the Board paid out an adjustment at the end of the season, based on the market conditions.

The African farmers could also deliver their output directly to the Marketing Boards. The farmer had to be registered with the Board, and in practice only the APA farmers were large enough to take advantage of this marketing channel. Thus, the bulk of the African farmers who were usually small producers in the TTLs, sold their output through approved buyers,³⁹ who in turn delivered it in bulk to the Marketing Boards. Under this system a series of levy charges on the African supplies actually resulted in large differentials in the price paid for by the Grain Marketing Board and the actual price received by the producers.

The government fixed the guaranteed price which was paid out by the Board. As shown in Table 6.2 the guaranteed prices for maize rose from 31/- in 1950 to 36/- in 1960, but dropped again to 31/6 in 1961. The prices were fairly stable in these years, but since it is the discriminatory levy that concerns us here, its amount confirms the fact that 'the revenue-collecting aspects of the marketing agencies' operations have tended to override their price-stabilizing functions,'⁴⁰

Table 6.2 Price Structure of Maize, 1950 - 1961 (for TTL Producers)

Crop Year	Guaranteed Price	Transport Levy	Deductions * Handling Levy	N.D.F. Levy	Minimum Payment to Producers
1950	31/-	2/6	2/3	2/6	23/9
1955	37/5	5/-	3/9	3/10	25/-
1960	36/-	6/10	3/-	1/6	24/8
1961	31/6	7/-	3/-	1/6	20/-

*) The handling levy was the agent's handling charges; N.D.F. = the Native Development Fund. This fund was used for development purposes in the reserves and the so called Special Native Areas and helped to finance the abortive Native Land Husbandry Act in the 1950s. The N.D.F. deductions above applied only to Africans in the Tribal Trust Lands; APA producers paid a higher levy to the N.D.F.

Source: Bulman (1975), Table 4.

The deductions in Table 6.2 constitute a transport levy, a handling fee and a levy paid to the Native Development Fund. The approved buyer retained the handling fee but the transport levy was passed on into a Transport Equalisation Fund which subsequently reimbursed the approved buyer for his estimated transportation costs. In fact, while the approved buyers were reimbursed for the transportation costs incurred, there was no incentive for Africans living near the markets since a uniform price for transportation was charged irrespective of distance from the railway head or depot.

The system of deduction resulted in a multi-price pay-out for identical products. In 1960, for example, the posted price for a Grade A bag of maize was 36/-. (Maize grades will be explained below.) This was the price received by European producers who were allowed to deliver their output to the railhead depots. Africans from the APAs received 33/- for the same bag of maize, if they provided their own transport services. 3/- was a deduction for the development levy on all APA products marketed through the government agencies. Africans in the TTLs received 24/8 per

bag after 6/10 deduction for transport fees, 3/- handling fee and 1/6 for the development levy. Thus for an identical product, an African in the TTLs received 60 to 70 per cent of the price received by a European producer, provided that both were located identically close to a railhead.

The functioning of the levy system is further illustrated by the marketing of groundnuts, the production of which was entirely in the hands of Africans. The price of groundnuts rose sharply from the 1950 level and was held high throughout the 1950s as shown in Table 6.3. The government, however, varied the size of the levy in such a way that actual prices received by growers fluctuated within a narrow range well below the level of guaranteed prices.

Table 6.3 The Price of Unshelled Groundnuts 1950 - 1959 (in shillings and pence per bag) Received by African Producers

Year	Guaranteed Prices	Levy	Total Deductions	Prices Received
1950	55/6	5/-	n/s	n/s
1951	81/6	6/-	17/-	64/6
1952	85/-	8/-	19/-	66/-
1953	85/-	10/6	21/9	63/3
1954	70/-	6/2	17/3	52/9
1955	70/-	6/7	17/7	52/5
1956	75/-	8/4	20/-	55/-
1957	83/-	16/4	28/-	55/-
1958	79/-	12/4	23/7	55/5
1959	79/-	7/9	19/7	59/3

Source: Yudelman (1964), p. 185.

Between 1950 and 1959, groundnut prices were fairly stable. But, as in the case of maize, the difference between the guaranteed prices and the actual prices received was such that it became unprofitable to grow

groundnuts unless the crop could be sold outside the framework of legal sales.⁴¹ If we take into account total deductions (which include market charges) prices received by producers actually fell by 20 per cent between these years. But since most other African crops were subject to levy whenever they were marketed through official channels, the disincentive effects on marketing of African produce might have led to a shift in the output pattern toward home consumed outputs. This hypothesis is untested, but the dualistic implications of the discriminatory levy charges are quite obvious. As the effort price of participation in the produce market increased further, additional unlimited labour supplies were created in the economy.

The Grading System

The grading system was another form of price discrimination policy which affected the maize crop and livestock marketing, especially cattle. The system of grades has been in operation since the 1940s up to the 1970s in the case of maize, and from the 1940s up to 1956 in the African cattle market. As will be seen, the system was relaxed somewhat in the latter market after 1956.

During the 1940s, maize was classified according to six grades (in a descending order of quality) A, B, C, D, E, and Z. If grades A to D were packed in second hand bags,⁴² they became A₁, B₁, C₁, and D₁. Grades C and C₁ were for yellow maize which Africans rarely grew. Quantities E and Z were very small. Most African producers sold their maize to approved buyers, who, whatever the grade may have been, almost invariably paid for it as grade D₁. Hence, there was no inducement for the African farmers to improve their crop since the grading and pricing system of the approved buyers, invariably discriminated against the Africans.⁴³

The grading system as a price discriminatory policy was introduced in the cattle market when, in 1944, the government set prices for African cattle on a weight and grade basis. Of the African cattle graded in 1944, 1.0% were grade A (the highest grade), 24.0% - Good Average Quality, 34.1% - Fair Average Quality, 30.7% - Compound, and 10.2% - Inferior.⁴⁴

The Cold Storage Commission held the position of a near monopsonist in the buying of African stock. The only other buyers were the African butchers in the TTLs whose market share was insignificant. On the other hand, European livestock were sold at the European cattle auction sales where bargaining or bidding up of prices were practised. It has been estimated in the 1940s that 'the prices offered for the three most important African grades were respectively 19% and 16% below comparable prices in the open European market.'⁴⁵

In the Rhodesian white opinion the price differential was based on the curious assumption that since the African costs of production were lower than those of the European farmers, the African producer received a very attractive price.⁴⁶ A parallel to this assumption was found in the marketing of crops, where maize prices were manipulated so that the well-off European growers were subsidized by the worse-off African growers.⁴⁷ Harry Dunlop has made the following observation on the impact of pricing arrangements in the cattle market:

The guaranteed producer price for slaughter cattle is translated into a schedule of grade and seasonal prices ... the prices of the two top grades were fixed at a level which involved the Commission in losses on both local and export sales, on the other hand, producer prices of the lower grades, comprising all African and part of the European output, were manipulated to allow the Commission to make an offsetting profit. ... Until 1956 the Commission was guaranteed a quota of African slaughter stock at fixed prices, but the changeover to the auction system involved it in competition with private butchers at prices well above the support levels, and it was then forced to curtail competition, at a subsequent stage in the marketing process, through its control of abattoirs and other marketing services.⁴⁸

The two top grades fixed at a price level which involved the Commission in losses were exclusively European produced cattle. The government fixed the prices so that the Cold Storage Commission inflated the price of European stock, the loss of which to the Commission was to be made up for by manipulating the grade and price of African produced stock. This dual price system which discriminated against African producers served as a disincentive for the latter's production for the market.⁴⁹

When the marketing system was 'integrated' in 1956, the former grades were reclassified and prices for lower grades were raised. African cattle were sold at auctions in the African areas which were open to all buyers on a competitive basis, with the Cold Storage Commission becoming a residual buyer at government prescribed prices, thus providing a floor price for all slaughter stock,⁵⁰ The changeover to auction sales was accompanied by an average increase in prices of about 26%. As a result of this there was a ten per cent increase in the numbers of cattle offered for sale between 1955 and 1956.⁵¹ Thereafter, though prices continued to rise steadily, sales dropped. It is probable that the main reason for this lag in sales was connected with the general decline in food production in the African areas, particularly since a ceiling might have been reached in the number of cattle per capita in the Tribal Trust Lands. In 1965, 49 per cent of the latter areas were classified as 'overgrazed' or worse, so that livestock carrying capacity of the land was already exceeded in the Tribal Trust Lands in all but one of the seven provinces of Zimbabwe.⁵² Between 1965 and 1977, sales of cattle failed to rise above the low level of 3 per cent of the herd per annum,⁵³ However, there was an improvement in the quality of African livestock offered for sale. (The TTL sales of fattened cattle for slaughterings increased from an average of 4,800 in 1970-1972 to 14,500 in 1973-1974.)⁵⁴

The country's small stock is marketed both through the Cold Storage Commission and private butchers. There is no indication of price discrimination in this market. The marketing of sheep has become important as a supplier of meat. It has been estimated that the European flock supplies about 50,000 sheep a year for slaughter while the African flock supplies about 170,000 sheep a year.⁵⁵ The goats are also provided by the TTL farmers, but despite certain efforts the numbers marketed have been comparatively low. It is probable that as food supplies in the TTLs became more difficult, the number of farm slaughterings by Africans increased. African farmers have also been offering more pigs since producer prices for pork were increased in 1977. The pig market is handled by COLCOM, a pig marketing cooperation that has the bacon monopoly and dominates the market,

In summary, like the price discriminatory policy under the marketing levy charged on African produce sales, the grading system in both maize and cattle sales was fixed in a way that African producers actually subsidized the Europeans through a manipulation of price differentials. As we have seen, in the cattle market, grading and prices were fixed in a way that the prices of top grades were inflated so that the Cold Storage Commission actually made losses. These grades were exclusively European stock. The loss to the Commission was made up by under-pricing African cattle. This dual pricing discriminated against African suppliers of livestock. This was aggravated by a levy that was charged on African cattle sold on weight and grade sales, which reduced the real incomes of farmers, with possible disincentive effects on productivity, particularly as the return to labour inputs declined due to the deteriorating land conditions and the market prospects.

Transport Services

Dualism in the land tenure system with a clear separation of land between Africans and Europeans had an indirect effect on the marketing opportunities for African produce sales. This was made possible by directing capital expenditure in roads, railways, dams, etc, so as to widen the differential in overall productivity of European and African agriculture. The white 'half' of the country contained the largest proportion of fertile soils and the major industrial and infrastructural installations. Our concern in this section is, however, limited to the dualistic structure of the transport system in Zimbabwe, as this has a direct bearing on the opportunities available for marketing of the agricultural produce.

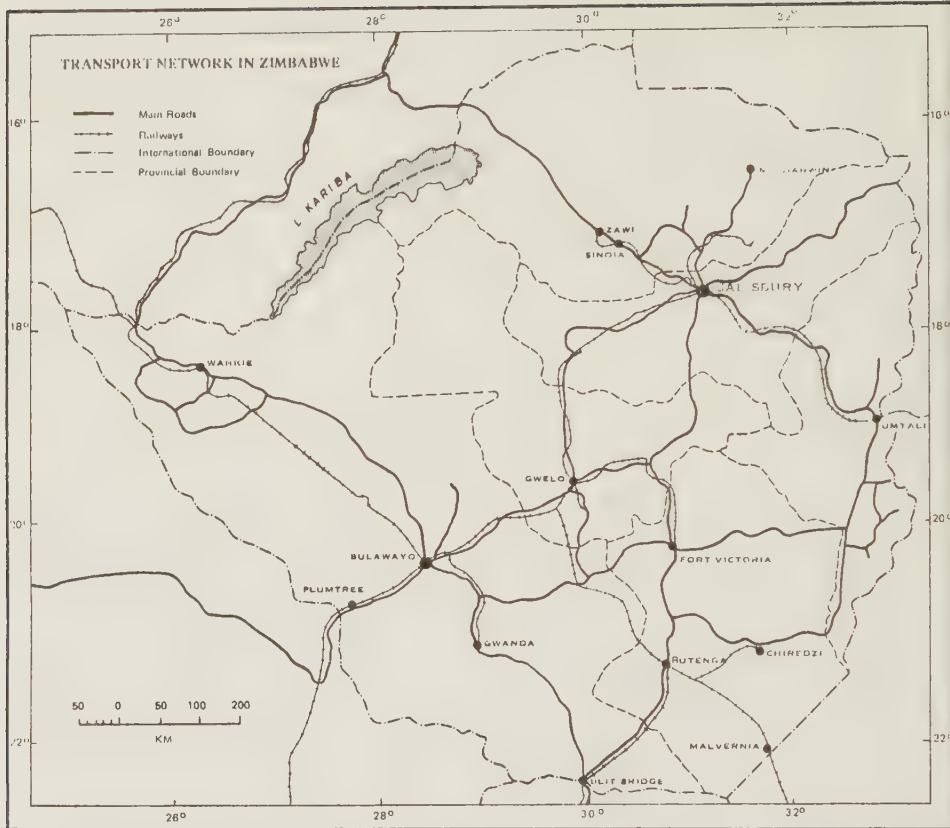
As a landlocked country, Rhodesia's railways and roads were created with the aim of assisting transit routes to the sea-ports. This was because the commodity composition of Rhodesian exports was primarily made up of heavy bulk minerals and agricultural products, and the greater share of external trade was with countries outside Africa. At the time of the UDI in 1965, efficient transit routes were by rail through Umtali to the port of Beira and Malvernia to the port of Maputo in Mozambique. Less important routes were by rail via Botswana and by road via Beit Bridge to the South African ports. In October, 1974, the Rutenga - Beit Bridge rail line linking Rhodesia with South Africa was completed.

When placed in a national context, the Rhodesian transport system discriminated against the African areas. The railway line from South Africa via Botswana runs from Plumtree to Salisbury through the European area extending along the high veld. (Cf. Figure 6.1.) The line's extension north west to Sinoia and the rich white farmland of the Lomagundi and Mazoe districts, as well as the Salisbury to Umtali line run through the European areas. This pattern is followed by other spurs to South Africa via Beit Bridge, to Mozambique via Malvernia, and to Zambia via Victoria Falls. The Gwelo - Fort Victoria line connects the European beef producing region with domestic and foreign markets.

In essence, the railway transport network is concentrated on the highveld, the area occupied by white farmlands. From the early years of the BSA Company, the policy was to locate European farms within a radius of 25 miles of the railway line so that white farmers had easy access to the country's transport system. Thus the highveld primarily became a European area by virtue of its location close to the main railway from Salisbury to Bulawayo. The policy of the provision of a markedly superior infrastructure (roads, power, electricity, irrigation, water services, etc) for Europeans in comparison to those of African producers is clearly illustrated by railway services. For example, in 1970 some 36 per cent of the European areas were within 10 miles of a station or siding, while a further 23 per cent were not more than 20 miles from such facilities.⁵⁶ Only 6 per cent of European areas were more than 50 miles from the railway services. On the other hand, two fifths of the total African areas (both APAs and TTLs) were more than 50 miles from the railway services while only 5 per cent of the African land was within 10 miles of the railway.⁵⁷ Thus, in contrast to the European areas, the African areas have less access to the railway services, which by 1976 had a network of 3,415 kilometres. The road distribution more or less follows the same pattern as the railways.

The all weather roads (full mat, narrow mat and strip) are mainly found along the European areas, and the African areas are served almost exclusively by seasonal gravel roads. The Road Motor Service (RMS) which is an

Figure 6.1



adjunct to the railways connect most of the outlying European farming areas with the railway lines. The RMS has a network of 12,000 kilometres of access roads,⁵⁸ Like the railway transport the RMS network was not available to the African areas. Both the railways and the RMS tariff structure was subject to government legislation and has always been designed to stimulate industrial, commercial, and agricultural growth. But the effect was to lower transport costs for the European farmers.

Then, since transport is a factor input in the marketing of agricultural produce, its inequitable distribution along racial lines has had adverse effects on productivity of African farmers,

The discussion in this section clearly points to the conclusion that the provision of railway and road services has followed the general pattern of dualism in the economic system. At the same time as they served as an incentive in the marketing of European produce, these services provided a disincentive to the marketing of African produce. Thus, the transport system was a strong factor in the creation of dualism in the produce market in the sense it made it uneconomic to market produce from those areas which were further away from the railway and road services and also from the towns and mines.

Conclusions

The discussion in the present chapter shows that at the beginning of colonial rule, Africans showed a quick awareness to the opportunity to increase their cash incomes through contact with the colonists. This was done through the sale of agricultural surplus produce. However, the era of peasant prosperity generated by the sale of produce to the advancing capitalistic sector was short-lived. The African peasants' participation in the produce markets was severely curtailed, mainly as a result of the movement of Africans into the reserves, which reduced their ability to compete on these markets. Further, slumps in the prices of maize and cattle (the main products produced by Africans) inevitably raised the effort price of participation in the produce market. Because of the fall in prices, many Africans still living as tenants in the European areas or unalienated lands, could no longer afford to pay their rents and other charges imposed on them in these areas, with the result that there was an increasing movement into the reserves. This resulted in a clear separation of white and black areas so that the provision of infrastructural resources (railways, roads, dams, etc) was biased in favour of white areas which further widened the productivity gap between the European and the African farming sectors,

These indirect restrictions on the spread of marketing facilities were reinforced by more direct means. Dualism in the produce market was further maintained through the statutory marketing institutions and discriminatory price policies administered under the latter. The government created the Marketing Boards and the supporting infrastructure with the aim of stabilising prices, but as the analysis in the present chapter demonstrates, these facilities were distributed along racial lines. Like the dualism in the land, labour and capital markets, this was bolstered through government legislation and other institutional restrictive practices. Discrimination in trade, allocation of transport and other infrastructural facilities was directed against African produce suppliers.

A systematic discrimination policy was administered through the allocation of maize crop quotas, the grading system on the maize output and cattle, and various levies that were charged on the African farm output marketed through the Marketing Boards and their agents (approved buyers), including African cooperatives. The levy system and price discrimination practices had the effect of reducing the farm incomes of the African sector. In this sense, dualism in the produce market acted as a disincentive to the growth of agricultural output. This was aggravated by the transport system which also served as a disincentive to the marketing of the African produce. Thus, while the European sector had easier access to transport facilities of both the railways and all weather roads, African farmers were almost invariably served by 'dirt' roads, and in many remote areas there were no roads at all. Only in recent years, as a result of military operations, more gravel roads have been opened throughout the country, especially near the borders of Zambia and Mozambique,

1. Arrighi (1970), p. 218.
2. Ibid.
3. Cf. Phimister (1977), Bhebhe (1974), Kosmin (1977), among others.
4. Phimister (1977), p. 257.
5. Fitzpatrick (1973), p. 45 in Phimister, Ibid., p. 265.
6. Phimister, Ibid., p. 257.
7. Ibid.
8. Ibid., p. 255, Arrighi (1970), p. 212.
9. Arrighi (1970), p. 229. According to Arrighi, the category effort price is the only possible category of cost for an economy in which there is no social phenomenon of wages. (Ibid.)
10. Arrighi (1970), p. 212, Yudelman (1964), pp.236-37.
11. Yudelman (1964), p. 237.
12. Arrighi (1970), p. 215.
13. Ibid., p. 215-16.
14. Ibid., p. 216.
15. Ibid.
16. Ibid.
17. Tickner (1979), p. 26.
18. Nziramasanga (1980), p. 53.
19. Tickner (1979), p. 28.
20. Tickner (1979), p. 27; Hunt (1973), p. 189, put the figure of regulated sales at 77%, which is comparable to that of South Africa -78%.
21. Nziramasanga (1980), p. 53.
22. Ibid.
23. Ibid.
24. The Farmers' Co-operative (Ltd) - the umbrella organisation of farmers' cooperatives - grants credit to members for the purchase of inputs such as machinery, fencing, fuel, and handles the accounting procedures of member associations.
25. Nziramasanga (1980), p. 55.

26. Hughes (1974), p. 263.
27. For example, in 1972, cooperatives purchased for their members R\$ 366,752 worth of seed and fertilizer through societies, and R\$ 505,638 worth of agricultural equipment and general supplies. (Ibid., pp. 262-63.)
28. Nziramasanga (1980), p. 55.
29. Ibid., p. 52.
30. Official Year Book of Southern Rhodesia (1952), p. 443. See also Weinman (1975), p. 48.
31. Yudelman (1964), p. 273.
32. Ibid., p. 179.
33. Ibid.
34. Weinman (1975), p. 48.
35. Ibid.
36. For details on soil conservation under the Native Land Husbandry Act of 1951, see Bulman (1971).
37. Dunlop (1970).
38. Hughes (1974), p. 259. See also Hunt (1973), p. 200.
39. Approved buyers (appointed by the Grain Marketing Board) were usually local storekeepers who served as the Board agents for buying the grain from the Africans and in turn deliver it to the Grain Marketing Board. By the 1970s transport and handling charges were determined on the basis of the distance of the point of sale from the nearest Grain Marketing Board depot. These charges were deducted, as a form of levy, from the amount actually paid to the sellers, who were invariably small-scale African producers. (Hughes (1974), p. 263.)
40. Yudelman (1964), p. 177.
41. Tickner (1979), p. 46.
42. Brand new bags for packing maize were only sold to European farmers while African farmers had access only to second hand bags which when used lowered the grade of the maize and hence the price fetched in the market.
43. Yudelman (1964), p. 179.
44. Report of Native Production and Trade Commission (1945), p. 29.
45. Yudelman (1964), p. 190.
46. The African in Southern Rhodesia (1952), p. 9.
47. Report of Native Production and Trade Commission (1945), p. 15.

48. Dunlop (1970), p. 15.
49. This point cannot escape even the supporters of discriminatory price policies. As A.F. Hunt reveals in the following statements: 'Africans who sell produce to the Boards are subject to the deduction of a levy for the Ministry of Internal Affairs' African Development Fund, Its deduction from the price is a matter of administrative convenience, however, and is not part of the pricing or marketing system. ... These ... charges are certainly disincentives to Africans who wish to sell.' (Hunt (1973), p. 200.)
50. The non-slaughterstock were placed in agreement with white farmers and in some cases APAs, who were later required to deliver them to the Commission's abattoirs, the white farmer or the APA farmer taking a profit on improved condition of the animals and/or progeny, (Dunlop (1970), p. 15.)
51. Yudelman (1964), p. 191.
52. Bratton (1978), p. 10.
53. Ibid., p. 9. Also according to a report of the Secretary of Internal Affairs, from 1971 to 1972 the increase in the number of cattle owned by Africans in the TTLs was put at 3,56 per cent while sales through the weight and grade channel dropped from 95,306 in 1971, to 70,904 in 1972, a decrease of over 24,000 head, (Hughes (1974), p. 264.)
54. The increased number of fattened cattle offered in the market was partly due to the removal of a levy charged on the price received by sellers of livestock at the weight and grade sales and partly because of the direct sales to the Cold Storage Commission.
55. Tickner (1979), p. 46.
56. ILO (1978), p. 36.
57. Ibid.
58. Ibid.
59. Nziramasanga (1980), p. 34.

7. THE CONSEQUENCES OF DUALISM

In Chapter 2, we distinguished between the discussion of dualism in general and the case represented by the Rhodesian colonial experience. The theoretical emphasis was also changed to focus on the historical causes and initial conditions of dualism in the economy. In Chapter 3, we established that the development of dualism in the Rhodesian economy was induced by policies of the colonial governments. Dualism was mainly explained by the development of the land tenure system which forms the basis for dualism in the rest of the economy. We subsequently established the existence of dualism in the labour, capital and produce markets. In contrast to the preceding chapters, where we have dealt with the causes and existence of dualism in the Rhodesian economy, the present chapter is concerned with an analysis of its consequences.

The discussion of the consequences of dualism will be focused on an analysis of interdependent relations in the economic structure working to lower the standards of living or per capita incomes of the country's majority, while raising the living standards or per capita incomes of the white minority. Empirical evidence in the Rhodesian case provides five interlocking components¹ that interact to create falling incomes in the African sector:

- (1) land alienation policies and discrimination in the provision of infrastructure and services;
- (2) population pressure in the African rural areas and soil erosion;
- (3) unlimited supply of labour;
- (4) discrimination and low wages;
- (5) falling per capita incomes.

These relations can be explained in the first place by the influence of relative factor prices which led to different factor price ratios that were used by the African and European farmers. In the long run, due to the prevailing set of relative factor prices, new, superior, capital-using technologies were accepted by the European farmers since it was cheaper for them to use more capital than labour. On the other hand, a relatively higher price of capital in relation to labour made it expensive for Africans to accept new technologies.

The different responses to new technologies, however, were not the only factors behind the income gap between Europeans and Africans. One of the basic conclusions we have arrived at in the above chapters is that dualism in the Rhodesian economy was historically achieved through the land alienation policies and in particular the conditions reigning in the land market. The existence of dualism in the land tenure system thus forms the basis for dualism in the rest of the economy. Through land alienation, the African population was forced to grow in an artificially limited land area (the African reserves). Increased population pressure of both humans and livestock in the African rural areas was created as a result of a policy where the whites gradually took over African lands and drastically changed the production conditions in the original 'traditional' economy to the point where it is almost appropriate to speak of destruction.

The increased man-land ratio in African areas led to soil erosion. As the man-land ratio increased, per capita income in the African sector tended to fall. This sequence of events made it possible to lower wages and call forth an 'unlimited' supply of African labour which by means of discriminatory legislation was confined to unskilled jobs in the 'modern' sector.

Thus, the most important of the five factors listed above appears to be the land alienation policies which triggered off a dualism that had direct consequences for income distribution in the traditional agricultural sector as well as for incomes earned by African workers in the modern sector. (The stagnation conditions in the African rural areas and 'discriminatory' dualism in the labour market combined to lower the wage level of the ever increasing numbers of job seekers in the modern sector. As a result, African incomes and working conditions in both the traditional and the modern sector of the Rhodesian economy appear to be grossly inadequate.)

In the concluding section, consideration is given to a possible transformation of the dualistic economic structure. This discussion begins with some broad policy objectives and then goes on to review policy recommendations that have emerged from previous studies. Finally, we discuss the direction of desirable structural changes in both the agricultural and modern sectors.

Technological Change

Differences in Factor Price Ratios

The evidence presented in Chapters 3-6 has shown that the Europeans and Africans have not faced the same relative factor prices. The question is how these different groups of farmers have responded to the prevailing relative prices operating in the sector. We shall now attempt to provide an answer to this question.

The relative factor prices prevailing in the economic system are translated into economic forces as the different producers explicitly or implicitly use them in reaching their decisions. In other words the consequences of the dualistic pattern of relative factor prices were translated into a set of differing relative factor proportions, i.e. to differences in the techniques of production employed by the African peasants on one hand and the European farmers on the other.

In Chapters 3 and 5 it was established that Europeans and Africans faced entirely different sets of factor prices, in terms of access to land and credit. Due to land concentration among the white farmers, the implicit rent or shadow price per hectare was lower for the white farmers than for the African peasants. In fact, as we saw in Chapter 5, the rates of interest were also somewhat lower in European agriculture than they were in African agriculture. (Lending rates in Rhodesia were, however, not particularly important in the allocation of credit as they were determined by government regulation and remained unchanged for long periods at a time.) Quantitative rationing along racial lines excluded many Africans from access to credit. In terms of implicit relative factor prices, we may say that the price of capital was infinitely (or at least prohibitively) high for an absolute majority of Africans.

Secondly, the wage rates for African workers in the European agricultural sector, though at penurious levels, were still somewhat higher than the wages obtained by African workers in the African farming sector. In the majority of cases, African farmers used family labour, but those who did hire labour actually paid a lower wage than that paid by the white farmers.²

Furthermore, due to the poorer economic conditions among African farmers (both APAs and TTLs), the imputed price of family labour in the African areas was lower than the wage received in the European areas.

It then follows that for the European farmers, land and capital were cheap in terms of labour, while for the African farmers the opposite was true. Consequently, the former chose techniques of production which required more land and capital per unit of labour. As a result, European farms were more land and capital intensive than the African farms. In this sense, the relative factor prices have encouraged labour intensive forms of production in the TTLs and land and capital intensive techniques on the large-scale European farms.³ These inequalities and ratios can be summarized in the form of symbols:

$$(1) \quad r_E < r_A$$

$$(2) \quad i_E < i_A$$

$$(3) \quad w_E > w_A$$

$$(4) \quad \left(\frac{T}{L} \right)_E > \left(\frac{T}{L} \right)_A$$

$$(5) \quad \left(\frac{K}{L} \right)_E > \left(\frac{K}{L} \right)_A$$

where r = rental rate of land or shadow price, i = interest rate, w = wage rate, E = European farms, A = African farms, T = land or terrain, L = labour, K = capital.

These markedly different factor proportions of the two groups of farmers in a dual agricultural economy stem directly from the prevailing set of relative factor prices. In addition, the system creates allocative inefficiency, since the conditions for free competition are violated when all producers do not face the same relative factor prices. The big farmers in the European sector tend to adopt techniques of production which are characterized by excessively high land-labour ratios.⁴ On the contrary the small peasant

farmer will combine less than the socially optimal amount of land and capital with his labour. Thus as a result of the effects of dualism on factor price ratios, there were pronounced differences in the techniques employed and, even more important, in the responses to technical change, between the European and African farmers in Rhodesia.

The Influence of Relative Factor Prices on Technological Change

Economic models have in one way or another incorporated technical progress as one of the main ingredients of the growth process. But most of these models have taken technical progress as given, and have failed to look into the causes and factors that inhibit technical progress in many societies.

If we are to understand why certain economies develop and others do not, the presence or absence of technical progress cannot be taken for granted. Some kind of systematic treatment of the reasons behind either state must be provided as well,...

In this section an analysis will be made of the reasons behind the different responses to technical change in the Rhodesian economy. Our analysis will be based on the evidence gathered in Chapters 3 to 6 and will show that imperfections in the land and other factor markets, as well as outright discrimination, had the effect of increasing the likelihood that if an innovation did occur, it would be the large white farmers who adopted it. The African peasants could not adopt the new innovations because of the problems connected with differing relative factor prices. The influence of the relative factor prices, indivisibilities and risk aversion hampered the adoption of new techniques, inputs or crops in the African sector, thus leading to different responses (along racial lines) to technological change.

At the beginning of colonization there were no technological differences between the European and African farmers, as Giovanni Arrighi observed:

Prior to ... 1903-04 ..., those Europeans who were interested in agriculture were either part-time farmers devoting themselves to more profitable activities or, as it was the case with many Afrikaaners who had trekked to Rhodesia, they were subsistence cultivators indistinguishable (by style of life, techniques of production, and crops cultivated) from the African peasantry.

In a more recent article Arrighi has added: 'In the rare instances in which they (the whites) engaged in agricultural production, they used techniques with lower yields per acre than those used by the Africans.'⁷ However, in the long run, there was an adoption of new capital-using technologies by European farmers since it was relatively cheaper for them to use more capital than labour. On the other hand, the high relative price of capital for Africans made it more expensive for the latter to adopt new technology.

The prevailing relative prices of the factors of production, especially that of labour and capital, are an important determinant of whether a (given) technology will be adopted or not. The influence of technological changes has been emphasized by Keith Griffin in his study of the Green Revolution.⁸ Griffin's argument can be summarized with the aid of the production isoquants and the isocost lines (relative factor prices) represented in Figure 7.1. The main point in Griffin's argument is that a new technology is potentially useful if it displaces all or part of the original isoquant towards the origin.⁹ It is possible to determine whether a technique will be adopted

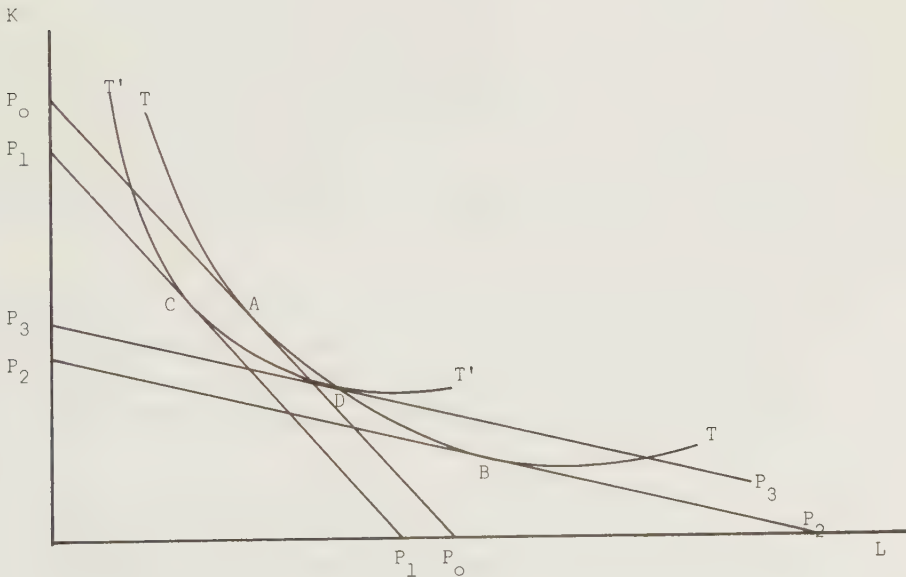


Figure 7.1

and, if so, by whom. On the vertical axis we measure the employment of capital (K), and on the horizontal axis we have the employment of labour (L).

Let us assume that the relative prices of labour and capital are the ones represented by the price lines $P_O P_O$ and $P_1 P_1$ (capital relatively cheap), and $P_2 P_2$ and $P_3 P_3$ (labour relatively cheap)¹⁰ and that the technology at the disposal of Africans and Europeans is indicated by the isoquant TT. In this situation the Europeans will choose the combination of labour and capital indicated by point A, the point at which the isoquant TT is tangential to the price line $P_O P_O$. The Africans will select the combination of labour and capital given by point B, also a point of tangency, but between isoquant TT and price line $P_2 P_2$. Assume next, that a new, capital-using technology, indicated by the isoquant T'T' (where T'T' indicates the same amount of output as TT) is introduced in the economy. By whom will it be adopted?

It is clear from the diagram that given the different relative factor prices which confront the Europeans and Africans respectively, the new technology will be adopted only by the Europeans (at point C).¹¹ The cost of capital and other material inputs will be lower for the European farmer and hence he has an incentive to innovate. The Africans can choose between their 'original' technology at point B and the new technology at point D, but they will not be able to innovate because the movement from B to D is associated with a rise of total costs since the isocost line $P_3 P_3$ lies farther from the origin than $P_2 P_2$. Given the respective relative factor prices, producing at point D is a more expensive option than remaining at point B.

In contrast with the Africans (who are left on the old isocost line), the Europeans were, therefore, able to produce more cheaply than before (i.e. on a new isocost line closer to the origin). The resultant expansion of European agriculture was thereby accompanied by a corresponding decline in the African share of total output.

Thus, the lower the relative cost of capital inputs, the more widespread will be the adoption of an innovation, i.e. the more readily will farmers invest in capital which embodies an improved technology.¹² A low level of interest

rates, a low price of capital or high wages will tend to induce farmers to abandon their old techniques in preference to new ones which are more intensive in their use of capital inputs.¹³ On the other hand, when the cost of capital inputs is high in relation to the cost of labour, new innovations will not be widely used and the sector will remain 'traditional', in the sense of retaining the old technology. This is because the introduction of an innovation requires expenditure on fixed and working capital and this type of expenditure will not occur when capital inputs are expensive in terms of labour.

In the Rhodesian case, as was seen in the empirical chapters, the price of capital in terms of labour was high. Dualism in land tenure and in the capital and produce markets had a tendency to create surplus labour and make this factor relatively cheap. In such circumstances, even if technical change is biased in a capital-using direction neither the large white farmers nor the small peasants will have a high propensity for innovation. This is because the market structure in the rural areas has produced a low wage economy. However, as shown by the differing factor price ratios above, the white farmers who were invariably facing a lower relative price of capital than the majority of the African farmers were expected to be more 'progressive', because their real costs of innovation were lower. Empirical evidence on this point is provided by the better savings possibilities in addition to more abundant credit facilities for whites in the Rhodesian agricultural sector. (Cf. Chapter 5.) On the other hand, there was a serious lack of savings and a lack of credit facilities (in the majority of cases even non-existent) in the African peasant sector. These factors were undoubtedly important in the context of innovation.

The ability of white farmers to acquire both land and capital on easier terms than their African counterparts meant that the former were in a better position to combine resources in order to meet the changing economic conditions than the latter. This can be illustrated by the case of tobacco and maize:

As the demand for these crops increased and land prices rose, production was intensified in the areas best suited for these crops. Between 1951 and 1957 acreage under tobacco cultivation in the six major tobacco-

producing areas declined by 10 per cent but yield per acre rose by 50 per cent; in the major corn-producing areas acreages under cultivation expanded by 17 per cent and average yields rose by more than 40 per cent. These high yields through intensification of land-use involved heavier expenditures in yield-increasing products, principally fertilizer, and improved techniques of production. ... Technologies of production in the African areas are as different from those in the European areas as day is from night. The family is the labour unit. There has been very little application of Western technology. Resources are not flexibly allocated to meet changing demand.¹⁴

The lack of property rights in the Tribal Trust Lands may also have been important in discouraging investment. The adoption of a specific innovation such as fertilizer applications, or the use of hybrid selected seeds, or overall modernity may be associated with a variety of particular characteristics of farmers, such as educational attainment, land ownership patterns and the like. After a survey of African evidence, Gerald K. Helleiner observes that the following characteristics are positively related to the adoption of innovations:

... farm size, wealth, tenure status, extension contact, participation in local organizations, use of communications media, degree of full time commitment to farming, commercial expenditure and modernity. Among the factors tested but found to be unrelated to adoption were age, educational attainment, religion, sex, work or farming experience.¹⁵

As the analysis above shows, the reason for a differential in the propensity for innovation along racial lines in the Rhodesian case lies first and foremost in the relative factor prices of labour and capital faced by the different groups of farmers. However, we have also seen that under the discriminatory price policies of the Marketing Boards, African producers were not encouraged to improve their crops or cattle stock since the price mechanism invariably placed the latter's produce at the same (lower) level. (Cf. Chapter 6.)

Indivisibilities, Complementarities and Risks

The complexity of the problem of the factors inhibiting innovation may also be elucidated further by the notions of indivisibility, complementarity and ability to take risk. Agricultural innovations entail important indivisibilities both in research and in actual implementation:

... the rapid shifts in technique that are now occurring in some countries result from work in research laboratories and experiment stations, usually maintained by government, whose results are then disseminated among farmers through field agents. Further, technical change is usually embodied in new or improved inputs of water, fertilizer, seed, pesticides and so on.

... Even pure subsistence farmers can benefit from improved input supplies, water control system, and research and international facilities.¹⁶

The problem of indivisibilities in the context of agricultural innovation largely stems from the fact that the individual producer unit is often too small to support an inventive activity. As in other ancillary activities - provision of processing facilities, transport networks and sources of finance - economies of scale in producing inventions give agricultural research the properties of a public good. The optimal scale of an ancillary activity like carrying out agricultural research, experimentation and dissemination is usually so large that for the most part it is a government responsibility. The attitude of the government in its recognition of this need and its willingness to allocate resources to it, provides an important influence for productivity trends in the agricultural sector. Small-scale production units such as family farm units can attain optimal efficiency only when embedded in a framework of supporting activities organized on a much larger scale. But as we have seen, this was not the case in the Rhodesian colonial system where a dualistic pattern that emanated from government policies hampered the introduction of new technologies, i.e. the indivisibilities were not reduced.

In an article entitled Technology And The Economic Development of African Agriculture in Rhodesia J.P. Danckwerts does not mention the historic causes hampering the acceptance of technology by the African farmers, but instead states that the rate of technological development is dependent on two specific

social factors, i.e. on the willingness and ability of the population to sustain technological advance.¹⁷ The social factors emphasized include: 'the need to set aside income to provide increasing quantities of capital; the necessity for more regular and accurate application of work; the need for longer periods of learning to equip workers for increasingly complex duties.'¹⁸

Since Danckwerts does not explain why the aforementioned factors came about, his approach, as we have seen, does not provide more than a limited explanation. However, he points to an important obstacle to innovations when he stresses indivisibilities.

The differences between the technological sophistication of the appliances used in the traditional African and modern, or European agricultural sector in Rhodesia are readily apparent. The latter are able to use a wide range of some of the most modern machinery in the world and are able to achieve high levels of productivity through the application of mechanical power to a variety of extremely complex machinery...

Traditional agriculture is largely confined to the use of a limited range of simple tools and machines dependent on human or animal power and the limitations of stamina which this implies... The small size of production units militates against the private ownership of the larger units of capital which frequently offer the greatest economies.

Fixed Capital. In the TTLs this is extremely backward when compared with the infrastructure of power and communications, the buildings, water systems, dams and cleared lands of the modern sector. This hierarchy is heavily dependent on progress in the other hierarchies before it can make any contribution to production. For instance, the arrangements of production in the form of appropriate land tenure are almost essential before farmers will be prepared to create and maintain such improvements as dams or permanent buildings.¹⁹

The indivisibilities with regard to farm size and the use of machinery and other permanent forms of investment are a consequence of dualism. With regard to the APAs, Roger Riddell noted: 'The units are too small to be capitalised efficiently - the majority are too small to warrant the purchase of a tractor. This is not altogether surprising considering that the majority of farms were located without a view to creating viable economic units.'²⁰ As the analysis of dualism in the land tenure system indicated, this problem was even more important for the TTLs. The success of an irrigation scheme (an indivisibility)

e.g. depends on the purchase of complementary agricultural inputs (e.g. seed) which in turn requires an efficient credit system as well as working a delivery system to facilitate the provision of inputs.²¹ Thus, given the complementarity of the factors necessary for innovative behaviour largely due to the presence of indivisibilities any solution of the dualistic problem in Zimbabwe will have to tackle these problems as well.

At this point, we may also relate the analysis to the discussion of the ability to take risk or uncertainty. John Weeks has analysed this in terms of Lipton's concept of 'surviving algorithm' to show that in the market organization of economic society there is an inherent tendency for the benefits from economic development to be distributed systematically in favour of the richer groups in the society.²² Weeks has summarized the conditions for the survival algorithm to be followed: (a) under conditions of imperfect knowledge (uncertainty) there is no single marginal physical product for each factor, but there is a large probability range within which the actual marginal physical productivity for any factor will be located in a given period; (b) in these circumstances profit maximisation does not necessarily involve a unique marginal value product to the price of each factor (which also may vary), but rather equates the marginal expected value product to the expected price of each factor; (c) this involves profit maximisation over a period of several growing seasons, some of which may be prosperous, others of which may not be so; and (d) for most cultivators the failure of an innovation may be quite disastrous - starvation or loss of land - because they lack accumulated wealth to cushion the impact of a bad crop year. That is, risk aversion is caused by the state of poverty and the 'risk premium is an increasing function of risk and a decreasing function of assets.'²³

It follows from the analysis of the functioning of the market under an imperfect state of knowledge or uncertainty that the propensity to innovate is a function of the individual's wealth. This is the case since the use of a new technique, input or crop represents risk-taking and uncertainty which involves going into an area where there is no previous experience upon which to predict the outcome. This situation is made worse by the fact that frequently a whole combination of new inputs will be necessary if the new technique is to have a beneficial effect.²⁴

Frequently, risk-taking will be avoided by the poor groups that apply a survival algorithm instead of profit maximisation. Because of the heavy negative weight given in their objective functions to the losses they might incur if a new technique is tried the poor farmers will refrain from the new invention, and hence lose the gains from innovative behaviour. Thus, despite the fact that economic profitability (defined to include the risk factor) is a necessary element in smallholder adoption of innovation, farmers with large asset holdings and annual incomes are in a better position to bear risk than small farmers. For instance, new high yield seed varieties involve greater risk of failure through inadequate water supply, destruction by local pests and diseases, i.e. a sort of dangers against which traditional seed varieties have become immunized over many generations. Yet it is in the latter area where the benefits of innovative behaviour are mostly likely to be found!

In the Rhodesian colonial experience, poverty among peasants and its consequences with regards to low risk-bearing ability, have presumably hampered the adoption of new innovations by the African peasants. For example, in a document circulated by the directors of the African Farming Development Company (after it ceased its operations), it was stated that when farmers were hit by a drought in one year, 'unfortunately the arrangements for drought relief were not extended to TTL cash farmers and heavy backlogs of indebtedness were clocked up by most of the farmers in the scheme.'²⁵ Given the poor land resources in the African areas and the lack of other factor inputs, African farmers were more likely to be risk-averse than the European farmers. In fact, only a few APA farmers could afford a loan programme 'covering all elements of "input" necessary to successful "output" - ploughing, seed, fertilizer, pesticides, picking and transport to market.'²⁶ In this way the problem of risk-aversion is a consequence of dualism since it is directly connected with low production in the African areas. Hence the elimination of dualism will have to take into account the problems of indivisibility, complementarity and risks affecting the African agricultural sector.

Population Pressure in the African Rural Areas

The differential response to technological change was an important factor behind the widening gap between the European and African per capita incomes. Of equal importance, however, is the cumulative tendency for the output per worker to fall in the African areas due to the increase in the man-land ratio. In the long-run historical perspective, one of the most profound effects of dualism in the Rhodesian African agriculture was the development of population pressure in the designated African areas.

The interrelationship between population growth and agricultural change has often been analysed with the aid of the concept of 'optimum population density'. This concept has attracted many writers, though it has proved difficult to define and measure.²⁷ The optimum population has been defined as that population at which with given natural and capital resources and a given technology, output per capita is maximized. The concept may be useful in the following way: Suppose that a given agricultural community has a finite amount of land and a given range of techniques and that output per capita is at a maximum. As the labour force increases over time, the marginal and average products will tend to fall in the absence of increased inputs of other factors.²⁸ However, a community may be expected to make an effort to maintain the equilibrium position. But suppose the labour supply increases beyond the optimum. Although total output may continue to rise the average output per capita declines as does the marginal productivity.²⁹ At this point in time, the community is overpopulated in terms of optimum population theory.³⁰

D.B. Grigg has argued that after the population pressure rises above the optimum, conditions are created which begin to force the farming community to change either its technology, its resources, or its numbers, so that it returns towards the optimum density or establishes a new optimum.³¹ However, regarding the application of the concept of optimum density to peasant communities, it should be taken into consideration that these societies are less sensitive to the decline in the marginal productivity than commercialized societies. That is, as long as additional labourers can produce food for

their needs plus a small surplus for sale, they will go on increasing their labour inputs regardless of whether marginal productivity is declining or not.³² They may only begin to alter their condition when pronounced physical symptoms of overpopulation begin to appear.

Two alternatives are open to an agricultural community faced with rapid population growth in a limited land area. In the first place, they can try to reduce their numbers so that the old optimum position is re-established. Secondly, they can change their resources and their technology so that a new equilibrium position is attained. However, it does not follow that peasant communities are always successful in these attempts. If neither approach succeeds, the community begins to show a number of physical symptoms of overpopulation which may alter both the socio-economic structure and the land use of the community.

The relevance of the concept of population pressure in a limited land area may be particularly illuminating in the case of Rhodesia. The African population was forced to grow in an artificially limited land area as a result of dualism in the land tenure system. Thus, already by the 1930s, signs of overcrowding and overstocking had become increasingly apparent in many African rural areas. (Cf. Chapter 3.) From the forties up to the seventies, the problem of population pressure of both humans and livestock intensified in the African rural areas. As seen in Chapter 3, this artificial creation of population pressure on the African land areas was in sharp contrast to the scanty population densities in the white rural areas. Moreover, as Roger Riddell has pointed out, vast amounts of commercial farm land were not cultivated. As much as 60 per cent or even more of the country's best land owned by whites is left unused.³³ On the other hand, overutilisation of the land occupied by Africans led to cumulative soil erosion. This follows from the condition that land was a scarce factor relative to labour and that a decumulation of land resources results from an artificial population pressure and labour force confined in the limited land area (the TTLs).

Thus the increasing man-land ratio in the African rural areas did not only lead to the failure of the Africans to accept new technology, it also led to soil erosion and low production in African areas. With time the soil quality

deteriorated to such an extent that additional inputs of labour no longer added much to output. There was also a change in the socio-economic structure effected by the creation of an unlimited supply of labour. As the African population increased and the land available diminished, people in the long run were forced to leave the Tribal Trust Lands.

Soil Erosion

Following the massive land alienations, particularly after the Land Apportionment Act of 1930 (Cf. Chapter 3), the signs of excessive population pressure of both humans and livestock became pronounced. This led to a decumulation of land resources which in turn resulted in soil erosion, particularly visible already in the early thirties:

Already the first signs of the possible deterioration of the land in native areas from cumulative evils in the shape of soil erosion, the drying up of springs, the extirpation of the valuable pasture grasses through overstocking, and the exhaustion of fertility were discernible in some of our more congested native reserves, and it is plain that we must take more positive control, if we are to see an increase, and not a reduction, in the life-supporting capacity of our native areas. The cumulative evils of population pressure on the land soon materialized: in an attempt to maintain output, land began to be brought back into cultivation before the soil had a chance to regenerate fully and grazing areas were destroyed as the number of stock increased.³⁴

This process continued and accelerated throughout the thirties, so that by 1943, 63 per cent of the reserves were classified as 'overpopulated' by the Department of Native Agriculture, and 50 per cent were carrying excessive cattle stock.³⁵ The government made several attempts to stop the spread of soil erosion but without much success. One of the aims of the Natural Resources Board in 1941 was to combat the spread of erosion. The Native Land Husbandry Act (1951) sought to regulate the construction of conservation works, such as contour ridges as well as regulate African farming in relation to soil conservation methods of cultivation and grazing. The Land Husbandry Act also provided for a centralized village scheme where arable lands were neatly laid out, separated from grazing land and protected against storm damage and erosion. However, the implementation of this Act met with resistance from the African peasant farmers. The latter criticised the Act on the grounds

that it required continuous cultivation of the already over-used poor soils. Reallocation of land meant that some good farmers had to leave their well tended fields and start on new ground. In most reserves the average arable acreage per family was 6 to 8 acres (2.4 to 3.2 hectares), which given the soil exhaustion, lack of equipment and other material inputs and knowledge, was usually inadequate for the African rural households.³⁶

With further land alienations during the fifties and sixties, population pressure increased in the African 'traditional' sector. This was aggravated by population growth in the TTLs. (Cf. Chapter 3.) Thus, with a higher man-land ratio, there was also a greater pressure on the soil which resulted in more erosion which was presumably self-generating as well. Erosion created a higher man-land ratio which in turn increased the rate of erosion, etc. The overstocking of grazing areas got worse in the 1960s and 1970s, and this becomes even more serious if account is taken of the fact that 90 per cent of the Tribal areas lie in the more arid Natural Regions III - IV.³⁷ Thus by 1965, the grazing areas were classified as follows: 13% as absolutely bare, 36% as heavily overgrazed, 15% as being in a moderate condition and 36% as being good. But the latter categories include stretches of land infested by tsetse fly, which could not be grazed at all. A survey carried out by the Department of Conservation and Extension showed that in 1976-77 the cropping potential of 12% of the TTLs had already declined and a further 41% was in ammanent danger of deterioration. About half the TTLs had their fertility seriously impaired.³⁸ Thus, in 1976 the Natural Resources Board declared that progressively serious desiccating effects, due to overgrazing had appeared,³⁹ and that grazing schemes aimed at soil conservation and upgrading of pasture lands, had generally failed. E.G. Cross has summarized the state of the TTLs in the following statement:

Tribal Trust Land provides homes for nearly 60% of our population, and a social security system for over 90%. Over the past 15 years it has absorbed 64% of the population growth. But the limit has been reached. It can no longer support its expanding population, and food has to be imported... The Tribal areas are overgrazed, subject to excessive population pressures and are close to ecological collapse in many districts.⁴⁰

Finally, because of the dualism in the land tenure system and discrimination in the provision of credits and extension service (Cf. Chapter 5), it is probable that not only overgrazing but also the changing cropping patterns in the TTLs may also have generated soil erosion. This is because more frequent cropping of the existing arable land may have adverse effects, particularly if the method of cultivation involves a changeover from the shifting system to permanent cultivation. This forces farmers to adopt some other means of maintaining soil fertility, but such changes have by no means always taken place.⁴¹ In this connection, P.M. Grant has argued that if manure was applied together with nitrogen fertilizer in the Rhodesian peasant farming this would result 'in high yields in the first season and for many years of continuing cropping...'⁴² However, as shown in Chapter 5, it has been virtually impossible for the majority of the African farmers to either have enough savings or have credit facilities in order to purchase fertilizers. The consequences were, therefore, further generation of soil depletion leading to more soil erosion.

Unlimited Supply of Labour

A further consequence of land alienation was that it created surplus labour in the sense that the majority of the working population are limited to tiny holdings in the traditional agricultural sector. Beyond the point at which family labour time cannot be fully utilized in the family farm, off-farm sale of labour time becomes necessary. As demonstrated in the model in Chapter 4, the initial effect of land alienation was to reduce the total output of the traditional sector, which in turn led to a decline in the per capita income in that sector. Because of the decline in the per capita income in the traditional sector, unskilled labour was forced out of that sector in order to seek alternative incomes in the modern sector.

As further land alienations took place, a successive decumulation of land resources ensued and once more additional labour was pushed into the modern sector, shifting the supply curve of labour to the right. (Cf. Chapter 4.) In the long run, the growth of the African population and the shortage of land forced people to leave the reserves for the modern sector. However,

the actual number of persons living in the traditional sector did not decrease since the dependents of migrant labour working in the modern sector remained behind in the traditional sector. In fact the number of persons in the rural African sector has increased during the last two decades.⁴³

The unlimited supply of labour was also reinforced by the development in the produce market, where as shown in Chapter 6, a given labour effort of African participation in the produce market gave in the long run a lower financial return than it had done earlier. This lowered the per capita incomes in the traditional sector and made the alternative of wage employment more attractive than participation in the produce market. But the concrete case of unlimited supply of labour is first and foremost a consequence of the land alienation process. The latter did not only have the effect of forcing people out of the traditional sector. As demonstrated in Chapter 4, it was also essential for establishing the uneven power relations in the market for unskilled labour. The creation of discriminatory laws and a colour bar in the market for unskilled labour might perhaps have taken place even without land alienations, but they would not have been effective, for the Africans would then have had the alternative of falling back on a traditional economy that allowed for a much higher standard of living than has actually been the case.

Incomes

The influence of dual relative factor prices in the agricultural sector and the 'discriminatory' dualism in the labour market may be particularly useful in explaining the fall in agricultural incomes as well as the incomes earned in the modern sector. The following concepts of income may also be examined in relation to the consequences of dualism in the Rhodesian case: distribution of personal income by size between the different racial groups and between the modern and the traditional sectors, distribution of income between different regions of the country, distribution of income between the factors of production, and the distribution between urban and rural dwellers.⁴⁴ In this section the discussion is

limited to an examination of the consequences of dualism in so far as they affect the distribution of incomes per capita between the European and African rural areas, the wage and salary differentials in the modern sector and the ensuing differentials in the standards of living. The ultimate consequences of dualism in the Rhodesian case appear to be the falling per capita incomes for Africans in the rural areas, the increasing income differential between Europeans and Africans and the growing insufficiency of incomes for Africans in both urban and rural areas.

Output Shares in Agriculture

In the long-run perspective, agricultural incomes of the Europeans and Africans were influenced by the differences in the relative factor prices prevailing in the agricultural sector. As a result, the European farmers were able to lower their production costs as compared to the Africans, thereby enabling the former to expand production while the latter saw their share of total output lowered. Secondly, the low output levels in African agriculture as compared to European output can be explained as a consequence of the increased man-land ratio and the concomitant erosion process. Thus, as early as by the 1930s, the agricultural economy of the Africans in Rhodesia had begun to show signs of ailment. This trend continued unabated in the post-1945 period:

... the marked European prosperity of the post-1945 period was achieved, as in South Africa, as a direct result of African poverty. In the years 1937-58 the volume of European agricultural output increased by 259 per cent and its value, thanks almost entirely to tobacco, by over 1,000 per cent, ... African productivity meanwhile limped behind, barely able to provide for the rapidly growing population, which was eking out a living on increasingly overcrowded and deteriorating reserves, ...⁴⁵

To judge from the empirical data of the 1960s and 1970s, a further widening of the differences in production performance between the Europeans and Africans would appear to have taken place. The African share of agricultural output remained at 20-30 per cent of the total. This is to a large extent a result of dualism.

Table 7.1 AGRICULTURAL OUTPUT (R\$ millions and percentages)

YEAR	TOTAL AGRICULTURAL OUTPUT		AFRICAN AGRICULTURE			APPROX. TOTAL		EUROPEAN AGRICULTURE GROSS OUTPUT		AFRICAN AGRICULTURE AS % OF TOTAL
	R\$m	Index 1967 = 100	SALES THROUGH MARKETING AGENCIES	PRODUCTION FOR RURAL HOUSEHOLD CONSUMPTION		R\$m	Index 1967 = 100	R\$m	Index 1967 = 100	
1964	174.4	80.1	9.0	27.2		36.2	50.0	138.2	95.2	21
1965	175.4	90.5	8.6	26.4		35.0	48.3	140.4	96.7	20
1966	196.9	217	10.2	42.0		52.2	72.1	144.7	99.7	27
1967	217.6	100	12.3	60.1		72.4	100	145.2	100	33
1968	184.0	84.6	7.2	39.9		47.1	65.1	136.9	94.3	26
1969	240.4	110.5	13.7	55.1		68.8	95.0	171.6	118.2	29
1970	226.5	104.1	11.2	46.2		57.4	79.3	169.1	116.5	25
1971	286.4	131.6	16.5	61.4		77.8	107.5	208.6	143.7	27
1972	324.2	149.0	24.9	65.4		90.3	124.7	233.9	161.1	28
1973	315.9	145.2	22.2	46.6		68.8	95.0	247.1	170.2	22
1974	440.2	202.3	31.9	88.0		119.9	165.6	320.3	220.6	27
1975	464.2	213.3	32.1	70.1		102.2	141.2	362.0	249.3	22
1976	491.7	226.0	30.8	84.8		115.6	159.7	376.1	259.0	24

Source: Rhodesia. Monthly Digest of Statistics, April 1977.

The figures in Table 7.1 show that the average African agricultural output as a percentage of total output was 24.5 per cent between 1964 and 1976. (This was in spite of the fact that there were 700,000 African peasant farmers compared to 6,000 European farmers.) The European farming sector produced most of the commercial marketed output and employed most of the wage labour in agriculture. Whilst the APAs supplied most of the output from the African areas marketed through official channels, production from the TTLs has been an unknown quantity. Until 1976 it was assumed to equal subsistence.

Total agricultural production increased at an average rate of 8.0 per cent per year between 1967 and 1976. (Cf. Table 7.1.) During the same period, production on European farms increased much faster than African production, by 10.4 per cent per annum, as compared to 4.4 per cent for African agriculture. These differences in the production figures along racial lines reflect the consequences of dualism in the factor markets. As a result of the increased man-land ratio in the African areas and the consequential erosion process, a low level of production in the African areas became more pronounced. Weather variations between different regions, as seen in Chapter 3, provide another explanation for the fluctuations in agricultural output. Thus, the decline in 1968, 1970, 1973, and 1976 in Table 7.1 for African sales, was due to crop failures which are in turn attributed to adverse weather conditions. The decline in African output is more severe during such periods, partly because of the poor soils and because the African areas are located in the drier regions of the country. As a result of these declines in output African rural areas have been increasingly forced to import food in recent years.⁴⁶

Table 7.2 AFRICAN AND EUROPEAN AGRICULTURE (including forestry):
Share in total output 1967 - 1976

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
European	54.7	63.3	61.0	64.0	62.3	62.7	70.3	64.0	70.5	67.7
African	45.3	36.7	39.0	36.0	37.0	37.3	29.7	36.0	29.5	32.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Rhodesia. National Accounts of Rhodesia, 1976.

The rising share of European agricultural output can also be illustrated by the figures in Table 7.2 which include forestry.⁴⁷ Between 1967 and 1976, the contribution of agriculture to GDP fluctuated between 15 and 20 per cent.⁴⁸ However, despite this more or less constant share of agriculture to GDP, the average share of white agricultural production (when including forestry) to total output increased from 60 per cent in the 1967-69 period to 67.4 per cent in the 1974-76 period, while the share of production from African areas fell from 40 per cent to 32.6 per cent. (Cf. Table 7.2). African agricultural output was marked by more severe annual fluctuations than European agriculture. As we have seen, this was partly due to distortions in the allocation of all those factors that might have compensated for adverse weather conditions. But it is probable that the fundamental reasons for the low output levels in the African agriculture are the increased man-land ratio and the accompanying soil erosion process in combination with the stagnant technology.

Falling Per Capita Incomes in the African Rural Areas

The evidence presented in Chapter 3 shows that at the beginning of this century, the African peasants in Zimbabwe sold large amounts of surplus agricultural produce to the towns and mines. But the growth of the peasantry's surplus produce was soon to be curtailed. This took place through the alienation of African lands and the consequent eviction of Africans from their previous good quality lands along the highveld to the drier regions of the country, where in addition they were far away from the markets. Thus, most of the characteristics of the structural underdevelopment of contemporary Zimbabwe, which created a pattern of regional and sectoral inequality, were achieved as a result of land concentration in the white hands and shortage of land in the African reserves.

The consequences were soon to be seen in differentials in land distribution between European farms on one hand and African farms on the other. (Cf. Chapter 3.) Our interest in these empirical data of the inequality in land distribution lies in the effects it had on falling incomes per capita in the African rural areas. Further evidence demonstrates that if access to resources, particularly land, is severely restricted and population

pressure is rapid, the consequences may be an absolute decline in the per capita incomes of the rural areas.⁴⁹ Thus, African rural incomes were estimated to have fallen 'from £15 per capita in 1956, to £11 in 1968'.⁵⁰ Further, because of population pressure in the African rural areas, the natural growth in numbers could no longer be absorbed in the TTLs without a reduction in the per capita product. Thus A.J.B. Hughes has observed:

Many tribal areas are becoming relatively densely populated, and local tribal authorities are often unable to give allocations of arable land of the sizes which are regarded as customary. The reduction of the sizes of existing allocations has not been favoured, which has meant that many of those who are seeking land cannot be granted rights to use any for a considerable time, thus creating a landless class.⁵¹

The fall in the per capita product for Africans in the rural areas is a consequence of rural population pressure in these areas which led to low production. As shown in Chapter 4, this fall in the per capita incomes was not only limited to the TTLs, but it was also experienced in the labour market for unskilled jobs in the modern sector. This was partly caused by a shift to the right in the supply curve of unskilled labour which depressed the wage level in the modern sector. Another important cause of low African incomes deriving from work in the modern sector would appear to be, the discriminatory controls which made it possible to fragment labour markets in such a way that bargaining power was systematically altered in favour of the employers and the white employees.

Wage and Salary Differentials

The purpose of this sub-section is to show that wide differentials in wages and salaries were a consequence of the dual structure of the economy and the ensuing levels of economic activity between the African rural sector and the modern sector. As we have argued above, the low level of African wages in the modern sector is a consequence of land alienation policies which created an unlimited supply of labour. With further land annexations, a growing number of job-seekers turned up in the modern sector which further depressed the wages of unskilled Africans.

Table 7.3 Employees by Industrial Sectors ('000s)

Annual average	Agric. and forestry	Mining and quarrying	Manufacturing	Electricity and water	Construction	Finance Insurance & Real Estate	Distribution and Hotels ^{a)}	Transport and Communic.	Services ^{b)}	Private Domestic	Other	Total
A F R I C A N S												
1964	293.0	41.6	65.0	3.7	28.2	2.1	41.9	15.0	46.2	93.7	17.0	647.0
1965	289.0	43.6	68.8	3.7	28.8	2.3	41.3	15.8	52.2	94.7	17.4	656.0
1966	272.0	45.7	68.5	3.8	29.4	2.3	38.7	15.5	52.6	95.7	19.8	644.0
1967	271.0	47.3	74.8	3.8	30.0	2.5	40.6	15.7	53.6	97.8	20.7	658.0
1968	282.0	48.4	82.1	4.1	35.5	2.5	43.4	15.8	56.0	102.0	21.0	693.0
1969	300.5	50.4	90.8	4.0	39.5	2.6	46.2	15.9	58.2	105.8	21.4	735.0
1970	290.5	53.3	100.2	4.2	41.8	2.8	46.1	17.0	59.3	108.8	24.4	748.0
1971	303.4	53.9	106.1	4.2	46.4	2.8	47.3	18.8	59.5	114.2	25.8	782.0
1972	334.4	54.3	113.7	4.4	50.5	2.9	51.7	19.3	60.3	120.1	28.6	840.0
1973	348.2	54.5	121.6	4.8	47.4	3.3	55.7	20.6	63.4	125.6	29.5	885.0
1974	356.9	58.4	132.8	5.2	64.3	4.0	55.6	22.0	66.8	131.4	32.5	930.0
1975	353.7	60.4	136.1	5.2	61.8	4.4	57.2	23.0	72.9	137.2	33.0	945.0
W H I T E S , A S I A N S A N D C O L O U R E D												
1964	4.4	2.7	14.1	1.2	5.4	5.6	20.3	9.1	17.2	-	7.1	87.0
1965	4.4	3.0	15.1	1.2	5.5	5.7	19.9	9.7	18.1	-	7.4	90.0
1966	4.4	3.1	15.1	1.3	5.7	5.7	18.1	10.0	19.1	-	7.7	90.0
1967	4.1	3.2	16.9	1.3	5.8	5.7	18.0	10.1	19.5	-	8.2	92.0
1968	4.1	3.3	17.6	1.4	6.4	6.0	19.0	10.0	20.0	-	8.8	96.0
1969	4.5	3.5	18.7	1.4	6.9	6.4	19.5	10.0	20.5	-	9.2	100.0
1970	4.6	3.7	20.0	1.4	7.2	6.6	19.5	10.3	21.4	-	10.1	104.0
1971	4.6	3.7	21.6	1.6	7.7	7.1	20.1	10.5	22.5	-	10.4	108.0
1972	4.7	3.7	22.4	1.7	7.5	7.9	20.4	10.8	23.5	-	10.7	113.0
1973	4.8	3.6	23.2	1.8	7.8	8.5	21.2	10.9	23.7	-	11.3	116.0
1974	4.8	3.6	23.8	1.8	8.1	8.9	20.8	11.0	24.2	-	11.6	120.0
1975	4.8	3.8		1.8	7.3	9.1	20.5	11.3	25.2	-	11.6	120.0

Source:

ILO (1978), Table 34; Notes: a) The sector Distribution and Hotels also includes restaurants.

b) Services includes Public Administration, Education and Health.

Through discriminatory laws, the colour bar and other institutional controls in the labour market, the wage gap differentials widened in those sectors of the labour market where union formation and minimum wage laws were not applicable. Thus, the highest wage differentials are found in farm and domestic services, which had their employment conditions regulated by the Masters and Servants Act of 1901.

(Cf. Chapter 3.)

In Table 7.3 we have the breakdown of employment of the two major racial groups in the modern sector. From 1964-1975, there was an increase in the number of African workers although aggregate employment fell in the 1975-76 period.⁵² The number of 'industrial workers' (all workers outside agriculture and domestic service) also increased in the post UDI period, probably as a result of the government's industrialization policies, based on import substitution. This increase also persisted in spite of a substantial rise in the capital-labour ratio which occurred in the post war mining industry, as the role of small owner-workers declined in significance. However, as can be seen in Table 7.3, much of the expansion in the 1970-75 period was in the agricultural and domestic service sectors. The latter sectors employ over 50% of all employees in the modern sector, that is, three to four times as many as any other single sector. But as shown above, the agricultural and domestic service workers came under the Masters and Servants Act, and were subject to severe restrictions with regard to unionization, collective bargaining and rights to organise.

Table 7.4 shows the European (including Asian and Coloured) - African wage ratio in the 1966-77 period.⁵³ A major feature emerging from the data is that African wages are substantially lower than those of Europeans, and this situation is found in all sectors. The disparity in the average earnings between whites and blacks between 1966 and 1977 amounted on the average to 10:1 (with variations between sectors). This is more pronounced in those sectors of the labour market in which union formation and wage bargaining were not applicable, as in farm and domestic service sectors. Thus, in sectoral terms the average ratio was highest in agriculture (23:1), rising to 27:1 in 1975 but rather lower in education and health (4:1). The

Table 7.4 The European⁺ - African Average Wage Ratio

Sector	1966	1967	1969	1971	1973	1975	1977
Agriculture and Forestry	20:1	21:1	23:1	22:1	24:1	27:1	25:1
Mining and Quarrying	12:1	11:1	13:1	14:1	14:1	14:1	13:1
Manufacturing	7:1	7:1	7:1	8:1	8:1	8:1	7:1
Electricity and Water	9:1	9:1	9:1	9:1	9:1	9:1	8:1
Construction	8:1	7:1	8:1	8:1	9:1	8:1	9:1
Finance, Insurance and Real Estate	4:1	5:1	5:1	4:1	4:1	4:1	4:1
Distribution, Restaurants and Hotels	6:1	6:1	6:1	6:1	7:1	7:1	6:1
Transport and Communication	5:1	5:1	5:1	5:1	6:1	6:1	5:1
Public Administration	7:1	7:1	7:1	7:1	7:1	7:1	7:1
Education	5:1	5:1	4:1	4:1	4:1	5:1	4:1
Health	4:1	4:1	4:1	4:1	4:1	4:1	4:1
Private Domestic Service ⁺⁺	-	-	-	-	-	-	-
Other Services	7:1	7:1	6:1	6:1	7:1	7:1	6:1
TOTAL	10:1	10:1	10:1	10:1	11:1	11:1	10:1

+) In the Rhodesian statistics European includes Asians and Coloureds.

++) There is no European - African ratio for private domestic service labour since only Africans were employed in this sector. However, all data indicate that this was second to farm labour as the lowest paid sector.

Source: Economic Survey of Rhodesia, April, 1976, and July, 1978.

trend during the sixties and seventies is more or less in line with the trend during the earlier decade. (Between 1955 and 1962, the European - African average earnings ratio in mining, manufacturing, electricity and water supply was 11:1)⁵⁴ African wages were generally higher among

'industrial workers' than among the domestic service and agricultural labourers because of the fact that the latter were excluded by the Industrial Conciliation Act of 1959 and thus remained under the Masters and Servants Act of 1901 which did not recognise union formation and wage bargaining. (Cf. Chapter 4.)

In terms of constant 1964 prices, the 'industrial workers' average earnings increased by 318% over the 1946-1970 period.⁵⁵ By contrast the share of the African wage bill accruing to the plantation and domestic service workers fell from the 1946-47 level of more than 50% to 28.5% in 1970 and to 26.2% in 1975. This fall persisted despite the expansion in the volume of employment, as the numbers of farm workers doubled from 142,000 to 290,000 from 1946 to 1970, and thereafter rose to 353,700 in 1975. The wage bill of this group hardly increased more than six-fold in current prices up to 1970, and by another 51% by 1975.⁵⁶

As a result of the stagnant conditions in the African agricultural sector, earned incomes were much lower than incomes obtained on the European commercial farms. Whereas the European farmers used hired labour and paid low wages in comparison to other sectors in the economy, the African farmers mostly used family labour. Further, their implicit wage presumably was lower than earnings of Africans in the European farms. Thus, in practice the lowest wage in commercial farming was to be found among the APA farmers who often combined family labour with hired labour.⁵⁷ This provides further confirmation to the argument that the cause of wage differentials is to be found in the dual structure of the economy which led to stagnation in the African rural sector as a whole.

As seen in Chapters 3 and 4 above, dualism begins in the land tenure system and provides a rural economic structure that ensures a regular and an abundant supply of cheap labour for the labour market. The plight of the unskilled workers is made worse by the discriminatory dualism in the labour market that serves to depress their wages even further. Thus, as a consequence, dualism has directly led to a widening of the wage gap between white and black workers on one hand, and also between the various sectors of African labour (e.g. between farm labour and industrial workers) on the other.

The Inadequacy of Wages

As shown in the preceding analysis, an important consequence of the dualism in the land and labour markets is reflected in the vast gap between European and African earnings in the modern sector. This sub-section attempts to relate African wages to the concept of the inadequacy of these wages in the modern sector, particularly in urban areas. Whether a wage is adequate or inadequate is a relative concept in that it assesses the relative sufficiency of the wage in relation to the minimum necessary costs of subsistence for the worker and his family and these costs vary in space and time. In more general terms, the concept draws a comparison between wages and the basic needs of the workers and their families. The effect of the wage level on the incidence of poverty may be explained by the notion of the Poverty Datum Line (PDL).

Basically, the PDL enquires into what poverty is and how one can determine at what level minimum wages should be set. The PDL can be defined as an 'objectively' determined measure of the amount of income a family of a given size and composition requires, within a defined environment, in order to live at a given minimum level of health and decency.⁵⁸

Before going any further, it ought to be mentioned that the issue of the PDL and its relationship to wages is a rather tricky question. The PDL is need-oriented, and income requirements are dependent on family size and composition, while wages are determined by the conditions in the labour market.⁵⁹ But, as Verity Cubitt emphasizes: '... the PDL can be a useful indicator for the employer against which to compare minimum wage levels. ... the PDL is exactly that, a datum line below which a family would be in poverty and above which they would not.' However, the PDL should not be used as a basic 'minimum wage standard' but rather as an orientation point above which wages can be said to ensure a minimum level of health and decency. If, for example, a working man cannot reasonably expect to earn within a reasonable period of time a wage that would enable him to support a family of moderate size, the wage structure can be said to be inadequate.

Another conceptual framework dealing with the basic needs of the lowest income groups in underdeveloped countries is the Basic Needs Approach (BNA). The BNA has been summarized in the resolution of the World Employment Conference held in 1976:

Strategies and national development plans and policies should include explicitly as a priority objective the promotion of employment and the satisfaction of the basic needs of each country's population... Basic needs include two elements. First, they include certain minimum requirements of a family for private consumption: adequate food, shelter and clothing, as well as certain household equipment and furniture. Second, they include essential services provided by and for the community at large, such as drinking water, sanitation, public transport and health, educational and cultural facilities.⁶⁰

The BNA is, thus, mainly concerned with the provision of the minimum requirements for consumption and essential services by the community, as well as providing the opportunity for mass participation in the decision making process and productive employment for the poor.⁶¹ This framework is, however, considered inappropriate at this stage of our analysis since we are dealing only with the poverty that affects the wage-earners and their families in the urban areas. Above all, the lowest paid segment of the labour force - the farm workers - are not included in this section. We shall return to the concept of the Basic Needs Approach when we consider the question of eliminating poverty which is in itself a consequence of dualism. As will be seen below, the Basic Needs Approach may well be one of the appropriate tools for dealing with the future. In this subsection we shall rely on data provided by studies on the PDL in the Rhodesian colonial setting.

The first of the PDL studies in Rhodesia was conducted by Edward Batson in 1944,⁶² and this was followed by a similar study in 1958 by David Bettison.⁶³ These pioneering studies were followed by the more recent and comprehensive studies conducted by Verity S. Cubitt and Roger Riddell in 1974, by Roger Riddell and Peter Harris in 1975, and by Cubitt in 1979.⁶⁴

The studies by Cubitt and Riddell, and by Riddell and Harris are more elaborate and comprehensive than are previous similar studies.⁶⁵ The authors have included nine categories of basic items in their assessment,

viz: food, clothing, fuel and lighting, personal care and health, replacement of household goods, transport, accomodation, education, and provision of post employment consumption.⁶⁶ The final PDL was arrived at by converting the figures for each of the costs of the items into monthly costs. The 1974 PDL for the cities of Salisbury, Bulawayo and Fort Victoria was \$73.52, \$70.04, and \$76.19 respectively. As Salisbury and Bulawayo represent the country's largest towns and Fort Victoria, one of the smallest, the likelihood is that a computation of other towns would have produced similar results, at least a little over \$70.00 a month. It should be noted that these figures can be used only in each case as they are calculated for purposes of wage determination policies. Strict precaution of the urban African consumer price index should be taken into account. For instance this index rose by 5.5 per cent between January and June 1974.⁶⁷ In addition, the PDL is inadequate unless one takes into account that it is a static concept. Over time the ideas of what are the necessities change, or the social structure changes, thus requiring that the PDL list of components be also changed to suite the new situation.⁶⁸

A conservative estimate of the average size of an African family in Zimbabwe is put at six persons.⁶⁹ With the extended family relationships there is no doubt that many families are larger than this estimate. This average family size would require about \$70 to \$75 per month to satisfy their necessary minimum requirements. In June 1973, it was estimated that 89 per cent of the industrial workers received less than \$70 in the form of cash wages.⁷⁰ However, this does not mean that all these families were living below the PDL. Some families were well below the average size, some received non cash benefits (free transport to work, free or subsidized housing), while some families would be engaged in some forms of illegal and informal trading.⁷¹ However, with generous allowance of these factors, the fact still remains that over 70 per cent of workers in the modern sector live under a regime of poverty with their incomes unable to take them above a poverty-stricken state. In 1961, 572,320 African industrial (non agricultural and non domestic service) workers were paid less than \$36.80 (in 1971 prices). In this manner, in 1971, there were 603,690 workers classified.⁷² In 1975, 202,350 African workers (or 43.4%) received less than \$40 per month.⁷³

In her recent re-costing exercise in 1978 (four years after the original PDL study), Cubitt has estimated that the PDL for a family of six persons in Salisbury and Bulawayo required \$113.45 and \$112.15 per month, respectively. The PDL for a family of seven in Fort Victoria was put at a monthly income of \$120.49. Further, while there has been an increase of 45 per cent in the PDL in Salisbury, 63 per cent in Bulawayo and 58 per cent in Fort Victoria, the consumer price index in the urban areas increased by 47 per cent, which is an indication of a continuous trend of many urban families living in poverty.⁷⁴

The analysis of the inadequacy of wages with the aid of the PDL concept does not include African workers in the European farms. This is due to the limited coverage of such studies, with regards to the rural areas. But the wages of the farm workers in the Rhodesian economy have also been inadequate since this was the lowest paid category of workers in the modern sector. The inadequacy of the wage structure is a deep-seated consequence of dualism in the economy. As a result the wages of unskilled labour will most likely continue to be inadequate in the Zimbabwean economy, at least until changes in the dualistic structure of the economy begin to take place and become effective.

Destroying Dualism

While the gaining of independence and the ending of colonial political ties may be a fairly rapid affair, the transformation of the distorted structure of the economy inherited from the colonial system is a more complicated and essentially a long-term task. In the case of Zimbabwe, the task of the future is to change the social structure that has been historically embedded in dualism with its adverse consequences for the standards of living of the majority of the community, so that the economic potential of the country can be mobilized for the benefit of the entire population. Given this policy objective, the question arises: What measures or development strategies should be employed to deal with the economic and social problems that have resulted from several years of neglect and exploitation of the African population? We shall attempt in the remaining pages of this study to sketch out possible patterns of future

reforms designed to gradually reduce and eventually destroy the dualism in the economic system. Ideally, the measures used should be judged by their ability to restructure the dual agricultural sector and all other sectors in order to effect, in the long term, rapid economic and social changes leading to marked improvements in the condition of life of the hitherto deprived African majority as well as exposing the latter to new social and economic opportunities.

There may be solutions which simply gloss over the actual transformation of the dualistic structure of the economy, i.e. solutions which merely conceive of marginal rather than structural changes that are meant to alter the fundamental character of the country's economy. Under this type of solution, the majority of the Africans will remain more or less at their present living standards, being largely untouched by development. Before going on to discuss the alternative policy proposals of the transformation of the dualistic social and economic structure, let us look at some concrete tasks, raised by this transformation process.

The basic prerequisite of the transformation of the colonial economic and social structure is the elimination of dualism, i.e. the merging of the different socio-economic sectors and the integration of the sectors of the economy into the framework of a single organic and dynamic mechanism. From the point of view of development, this integration of the traditional with the modern sector cannot be achieved without structural changes in both the former and the latter. Because of the market imperfections and distortions existing in the Zimbabwean economy, structural changes cannot be expected to take place within the existing market mechanism. Consequently, purposeful development policy actions can be taken only by state intervention. This is because e.g. the redistribution of lands and the allocation of investments cannot be left to the spontaneous activity of the market mechanism but may require a centrally co-ordinated development programme and/or government intervention to remove the existing market imperfections. In a long-term development strategy, events cannot be merely left to the unplanned allocation among sectors and regions on the basis of an assessment of individual profitability, but it must also include the explicit elimination of dualism. In fact,

the selection of development projects and the assessment of their profitability and efficiency must also take into account this requirement. As the U.N. Report on Zimbabwe correctly emphasized:

Future development proposals by the government of an independent Zimbabwe must go beyond mere statements of objectives. They must make provision for structural changes and fundamental policy reforms (*my italics*).⁷⁵

Some Policy Recommendations

Many of the policy proposals for future development that were made during the colonial period, failed to deal with the crucial problem of structural reforms. The objectives of these proposals were limited to such improvements in African conditions that could be accommodated within the prevailing colonial structure. The proposals were based on 'the prevailing philosophy which attempted to attribute African poverty to African values and attitudes rather than to the economic and social restrictions imposed on Africans.'⁷⁶ The theoretical justification of African poverty is thus exemplified in a document prepared for the Rhodesian government in 1967:

Economic development is fundamentally a function of the religious, social and cultural values of a society and the psychological traits of its members, which together constitute a way of life. A study of the Bantu peoples of Africa reveals the absence at this stage of most of those elements which are conducive to economic development as an endogenous process.

... The resultant low income level may not be an undesired situation, in the sense that it constitutes equilibrium between marginal disutility of effort and marginal utility of income.⁷⁷

Thus, having neglected the existing dualistic structures in the land tenure and the discriminatory dualism in other markets as being responsible for African poverty, the Report went on to suggest that African living conditions could be improved by measures 'to modernize farming in the subsistence sector and raise its productivity' and also 'generate employment opportunities outside the subsistence sector'.⁷⁸ These measures, however, would be sufficient only as long as foreign interests and European immigrants continued to make further investments, expanding, among other things, European agriculture, manufacturing and mining activities.⁷⁹

Although more 'progressive' than the above Report, the Whitsun Foundation (a Rhodesian-based institution) also preferred to gloss over the deep-seated structural problems of dualism. The Whitsun Foundation's policy suggestions were based on the premise that while an increasing proportion of the African population will in the future both reside and be employed in the modern sector, a growing absolute number will continue to live in the rural areas. Thus, in order to halt the degradation of land resources and personal incomes, certain measures would have to be undertaken. These included, among others: (a) more training of Africans in technical skills in order to enhance their employability; (b) promotion of African advancement in industry by removing racial barriers and what was described as a 'positive' policy regarding immigration which would ensure that immigration did not endanger the principle of giving to local labour first priority for employment in jobs for which they are qualified; (c) priority was to be given to investment funds in the urban sector in order to create employment opportunities there; (d) lifting of racial discrimination in the allocation of land, with access to property rights being given to those Africans with a potential to employ land productively and without resource depletion.⁸⁰

Thus, the Whitsun Foundation raises the issue of land reform only in order to dilute it. It is said that only a small amount of land is potentially available for reallocation, which is contrary to all available evidence on Zimbabwe. (Cf. Chapter 3.) Secondly, the argument allegedly based on economic grounds, that reallocation of land should only be available 'to users who would farm the land productively without resource depletion' may not be justified for three reasons: (a) African farmers in Zimbabwe, whether in the APAs or TTLs or wage employees in European farms have demonstrated skill and ability in farming;⁸¹ (b) lower yields in the TTLs are largely the results of poor soils, soil erosion resulting from overcrowding of both humans and livestock and lack of credit and services rather than from lack of skills; (c) those to be resettled will not replace those working in the presently farmed commercial areas, but rather they will be going into areas which have been lying fallow.⁸² Therefore, there may not be much risk of lowering productivity on the part of those to be resettled,

especially if the land reform should include the whole package of complementary inputs such as credits, extension service and marketing facilities.

In a study by the German Democratic Institute (GDI) policy proposals were made on the basis of the Basic Needs Approach (BNA). The BNA was defined as consisting of three elements: (i) minimum requirements for consumption, i.e. adequate food, clothing and housing; (ii) the provision of essential services by the community (health, education, public transport, etc); (iii) mass participation in the decision making process. The GDI study assumed that these objectives, though not explicitly defined by the liberation movement were 'contained in all programmes of the liberation movements and (were) indeed the major goals of the entire developing world.'⁸³ Roger Riddell also took as his objective the BNA on more or less similar grounds. Riddell chose the BNA because 'it is the specific strategy which the 1976 ILO World Employment Conference in Geneva proposed that all developing countries should adopt for the next twenty-five years.'⁸⁴ Thus, these studies proceed from well-known policy prescriptions. The question remains as to how these prescriptions can be adapted to the specific needs of Zimbabwe.

The GDI study has proposed the following solution, among others:

(a) Growth of the modern sector, especially the manufacturing sector which is seen not only to be essential for employment but also for its potential in financing the 'enormous investment' which will be needed for the satisfaction of basic needs in the rural areas. State intervention is encouraged to achieve 'real income distribution and a reduction of dependence on outside forces.'⁸⁵ These aims will be achieved by the nationalisation of key branches and the majority control of the key enterprises in the mining and manufacturing sectors. (b) Public expenditure has to be re-adjusted in favour of infrastructures in the TTLs (health, education, water, roads, electricity, etc), as well as in amenities for the urban poor, i.e. the government is to invest in improvement of the infrastructural base of the rural and urban poor. (c) Elimination of discriminatory legislation of the produce markets.

As far as land reform is concerned, the GDI study recommended (a) the redistribution of land and settlement of African peasants from overcrowded TTLs on the present white land. The new settlements should take the form of small holdings and they should preferably be created on land suitable for intensive farming (Regions I, II, and III), and also on land presently under irrigation. (b) The large-scale farms should be maintained and should be allowed 'an orderly transition of ownership and management' either to state-ownership, local corporate ownership, cooperative ownership or remain as private enterprises or lease-holds. Thus, a mixed farming system in both ownership and production structure is envisaged.

A more detailed transformation of the agricultural sector is found in the work of Roger Riddell. In dealing with the alternatives for the future, Riddell deals with land reform in more detail than the other similar studies, and outlines a system of land tenure to provide for (i) security of tenure for all; (ii) the control of land and of any surplus produced by those who work the land; (iii) participation in decision making relating to land; (iv) equality of income and land distributions; (v) a 'thorough going land reform' to be carried out under a socialist economic framework which is expected to lead to a more equal distribution of land and income. The recommendations are couched as long-term policy options:⁸⁶ (1) The means of production should be nationalized and come under 'social ownership' in order to evolve a system of equal access to land for all those engaged in land cultivation, full employment, equal distribution of income as well as achievement of self-reliance. (2) A resettlement of Africans from the present overpopulated areas to the unused and underutilised 'white' areas is proposed. This measure is said to have the advantages of increasing the potential for agricultural development and the easing of land pressure in the African areas which itself leads to a greater potential for the development of these areas. (3) Rural communes are proposed throughout the rural areas. Communes are preferred to small holdings because it is said that such cooperatives are more efficient in the utilisation of the division of labour. Furthermore, as technical progress in agriculture is

not scale-neutral but has a bias in favour of larger acreages, communes will be ideal for Zimbabwe. Riddell argues that the communes have the advantage of providing a more rational and efficient framework for the provision of extension service, credit and other necessary inputs such as fertilizer and seeds - as well as the marketing of the crop. The other advantage of the communes is said to be in product specialization according to natural regions, as well as concentration of health facilities as compared to scattered small-holdings. (4) Land and capital should be held in common and the farmers should pay less taxes to the central government thereby sharing a greater proportion of the proceeds among themselves. (5) After the nationalisation of land the government should retain the small and large-scale European operators in their farms. One way will be to insist on Zimbabweans gaining managerial expertise and technical knowledge.⁸⁷ In addition, the government should finance necessary incentives to be paid to those white farmers who have been profitable so that they continue on their land.⁸⁸ A 'gradation of compensation' should be positively proportional to a higher utilization rate of the land and cooperation on the part of the farmers, so that those farmers who have been unprofitable are in time phased out into co-operatives. This is important according to Riddell because 'It needs to be extremely profitable for farmers to stay in their land long enough to ensure that new management could be trained to run the farms competently.'⁸⁹

Thus, the policy options reviewed above range from the conservative ones of the colonial government which aimed at maintaining the status quo to the more radical ones offered by Riddell. The policy instruments suggested here, especially those of Riddell, go a long way towards reforms needed in the transformation of Zimbabwean agriculture. But since these suggestions do not essentially deal with the problem of dualism, we still lack a strategy which will lead towards an elimination of the differences within the dual economy.

A Strategy to Eliminate Dualism

A development strategy designed to reduce and eventually eliminate dualism must attempt to answer the following fundamental questions: (a) in what form

should the transformation of the traditional sector take place?

(b) how should the modern industrial sector be transformed so that it enhances technical progress or brings about rapid changes in technology and in the product pattern of the traditional sector?

Regarding the first question we shall be concerned with the nature of the land reform and the type of innovations required in this transformation. The second question refers to the structural changes of the modern industrial sector and its capability to adapt and further produce the kind of innovations needed in other sectors of the economy, especially the agricultural sector. Technological progress in industry provides the main vehicles of technological progress in all the other branches of the national economy.⁹⁰ Our main concern will, however, be the transformation of the agricultural sector towards an integrated entity in terms of techniques employed, productivity and income distribution.

To be effective, the elimination of dualism must critically depend on the form or forms of structural changes in the agricultural sector. We shall, thus, begin by suggesting the types of policy options aimed at destroying dualism in this sector.

As the policy recommendations suggested by the earlier studies indicate, the most important means for obtaining a meaningful structural change is a radical land reform in which the provision of extension services and financial assistance will be part of the institution of the land reform. This needs no justification in view of the population pressure in the TTLs and the existence of unused land in the former white areas (which is estimated to be as high as 60 per cent or more when underused land is also included of the total commercial farm land).⁹¹ The transformation of the traditional sector and resettlement into the former white land provides the basis for collectivisation. But, often the success of the latter critically depends on the attitude of the peasant farmers. The question of attitudes and particularly the degree of individualism in the peasants differs from country to country, and even from region to region within

one country, depending on the history of the small holdings. In the Rhodesian experience the individual holdings in the TTLs did not provide security of land tenure and the ownership relations were almost always uncertain. In these circumstances, the introduction of collective forms of work, organisation, as well as taking decisions in order to enhance social cohesiveness and to take advantage of increasing production, while in some cases retaining individual ownership of holdings, is unlikely to be resisted by the peasants. Ideally, a combined strategy of individual and collective farms may be widely practised at the early stages of the transformation, with the weight of the structural change moving towards forming cooperatives and perhaps some state farms.⁹²

The advantages of setting up large cooperatives, as opposed to individual holdings, include the opportunity of settling relatively large populations on the site of irrigable lands and the pooling of highly indivisible mechanization operations. The costs of supplying inputs and marketing will also be lowered under a cooperative scheme. State farms could exclusively engage in the production of fruit, livestock and industrial fibres and most of those crops that enjoy economies of scale. State farms could also take over all the experimental and seed farms that provide an essential input for both the individual holdings and the cooperatives. As we have shown above, agricultural experimental activity is highly indivisible and has the properties of a public good.

The success of the land reform will also depend on the structural changes designed to reduce the large differences in factor proportions employed in African and European agriculture. The elimination of dualism in the land market will have to be accompanied by technological change if the transformation of dualism is to be meaningful.

Bruce F. Johnston has argued that the most fundamental issue of agricultural strategy facing the underdeveloped countries is the choice between a bimodal strategy in which resources are concentrated within a subsector of large, capital-intensive units, or a unimodal strategy which is designed to encourage a slower but wider diffusion of technical innovations which more or less comply to the factor proportions of the

sector as a whole.⁹³ The unimodal strategy emphasizes sequences of innovations that are highly divisible and largely scale-neutral. These innovations can be adapted in an efficient way to small farms and can also be adapted gradually, i.e. they are appropriate to a progressive pattern of adoption in the sense that there will be a progressive propagation of techniques within particular areas and extension of benefits to new areas. Johnston suggests that the propagation effect will take place via the spread of the new innovations, e.g. when irrigation facilities or improved market opportunities in one area are adopted by farmers in the neighbourhood.

The bimodal strategy, on the other hand, has the advantage of rapid adoption of a wider range of modern techniques. However, with this type of strategy, innovations are only usually adopted by a minority of large farmers, especially in those economies where there is a small demand for commercial goods because the majority of the working population are still peasants. Consequently, the bimodal strategy does not spread the use of techniques to the entire agricultural sector. Thus, the gap between the factor proportions used by the different farmers will widen further and the bulk of output will continue to come from the more capital-intensive farms.

On the other hand, under a unimodal strategy, the most advanced farms are supposed to display about the same factor intensities as average farms. Differences in output per unit of input may continue to be large, especially in the early stages of the transition, although this will tend to reflect differences in the efficiency of production and management rather than major differences in factor proportions.

In the Zimbabwean case, the ultimate aim of reducing and eventually destroying dualism, will be to reduce the differences in factor proportions between farms. Thus, it appears that the unimodal strategy will be suitable for the country. This will lead to a reduction of the indivisibilities since the unimodal strategy emphasizes highly divisible and scale-neutral innovations. However, as the aim is not only to reduce

differences in factor proportions without at the same time increasing productivity rapidly, Zimbabwe must take advantage of using some of the less scale-neutral innovations already available in that country's agriculture. This means that, even though the unimodal and the bimodal strategies are mutually exclusive, the solution may be the adoption of the unimodal strategy for the whole country, but with a view to move on to use the machinery, irrigation system and other complementary innovations at present only available to the commercial farms. The question of the implementation of such a strategy will critically depend upon the policy instruments employed by the government in Zimbabwe.

We have advocated a land reform that includes in its package the provision of extension services, credits and public infrastructure necessary for the supply of inputs and the marketing of output. The desired changes in the allocation of human and material resources within the agricultural sector and also between the various economic sectors will probably be effected through pricing policies. This will affect the desired changes in income distribution as well. However, given the magnitude of the structural imbalances as a result of dualism, direct controls, by the state, will be necessary either to complement pricing policies or even to initiate the desired changes.

Now the remaining constraint in the implementation of our strategy is the availability of innovations. Underdeveloped countries usually cannot cope with the importation of agricultural machinery, especially given the lack of foreign exchange. In addition, the lack of attention given to research and development activities as well as support services to promote adaptation of imported innovations only serves to aggravate the problem. This brings us to the second question posed at the beginning of this sub-section: how should the modern industrial sector be transformed so that it is able to bring about rapid changes in technical progress?

The modern industrial sector should be transformed to provide the technical innovations needed in other sectors of the economy, and especially in the agricultural sector. As in the transformation of the agricultural

sector, there may be a need for state intervention in the industrial sector if technical progress is to be in harmony with the economic conditions of the country. The recognition that technical progress in industry is the main vehicle of technical progress in other sectors of the economy presumably compels the government to intervene in order to influence structural changes in industry. This may be particularly the case if there is a need to create capital-goods producing industries⁹⁴ and research and development activity designed to spread technical innovations to other sectors of the economy. In this connection the U.N. Report on Zimbabwe stated that 'Direct government action will also be needed in the implementation of an appropriate science and technology policy.' The Report continued that if a science and technology plan should be part of the national development plan 'centres and institutions for the acquisition and adaptation, design and development of technology should be established to ensure that full advantage is taken of domestic possibilities in this sphere.'⁹⁵

Zimbabwe may be fortunate to have an appropriate production capacity, including technical and professional manpower to adapt technical innovations to the local conditions. Though the Rhodesian colonial system relied on foreign investment and control, the importation of technical skills and a very strict racial division of labour, there was also a relatively large industrial sector producing intermediate and producer goods (capital goods) with a certain capacity for internal technical innovation. The manufacturing industry's best performance during the post UDI period was in the basic metals and metal products. All the chrome produced in the country was processed into ferrochrome and the iron and steel industry increased its capacity to one million tons a year.⁹⁶ The products from the iron industry provided inputs into the mining and agricultural sectors. Thus, there already exists an appropriate production mechanism with a minimal research and development capability which can enable the country to provide the necessary inputs needed in the transformation of its dual economy. This may be a necessary condition for the modern sector to oriente itself towards the supply of innovations needed in other sectors of the national economy.

Conclusions

This chapter set out to show that over time, the development of technological change in the Rhodesian agricultural economy has been profoundly affected by the consequences of dualism. In the long run, the dualistic pattern of the prevailing set of relative factor prices increased the possibility that if any innovation did occur, it was the European farmers who adopted it. Given the relative factor prices faced by the white farmers, it was cheap for them to use capital relative to labour. On the other hand, Africans failed to accept new technology because it was expensive for them relative to labour. This led to different factor proportions being used between the European and African agricultural sector which in turn had serious consequences for widening the gap in incomes of the two sectors.

The source of causation among the interlocking components that interacted to create falling incomes in the African sector, is to be found in the land market. As the man-land ratio increased in the artificially limited land area occupied by Africans, soil erosion was intensified. With time the soil quality deteriorated to such an extent that additional inputs of labour no longer added much to output. Thus, with different factor proportions employed by Europeans and Africans there was a gradual expansion of the European share of total output, while the share of African output correspondingly declined.

The consequences of dualism in the Rhodesian economy illustrate the coherent nature of those interdependent relations in the economic structure that worked to depress the living standards of the country's African majority while at the same time pushing up the living standards of the white minority. The components that interact to create falling incomes in the African sector had their basis in the land tenure system.

As the final section of the present chapter shows, the need for restructuring the economy must inevitably start with the agricultural sector where dualism has its roots. Consequently, the centre of gravity in

the transformation of dualism will evolve around the nature of the land reform and the complementary activities needed to make it effective. The specific circumstances of Zimbabwe, particularly regarding the resettlement of many landless and overcrowded Africans into the hitherto unused and underutilized former white areas, provides the basis for collectivisation of agriculture. But this scheme must be combined with individual tenure and probably with some state farms as well. Perhaps over time, many of the small individual holding units may be phased into cooperatives. Whilst a unimodal strategy of development is envisaged, care must be taken to introduce better and more efficient capital inputs into agriculture. The success of this will, of course, depend on how the modern sector is able to cope with research and development activity geared towards the adaptation of modern technology for the local needs.

The present study departs from an analysis of the conventional theory of dualism as mainly represented by the 'classical' dualism associated with W. Arthur Lewis. But as pointed out in the criticism of the Lewis model, in its analysis of the long-term accumulation of capital, the latter did not succeed in incorporating the development of the traditional sector, but development was to be centred in the 'modern' capitalist sector. Empirical evidence from many underdeveloped countries, however, points to the negative distributional consequences of development that neglects the traditional sector in the growth process. We have argued that it was unrealistic to expect a 'trickle down' from the modern to the traditional sector, but that if development has to have positive distributional consequences for the majority of the population of an underdeveloped country a simultaneous development of both sectors should take place. In this case the effects of one sector on the other will be of mutual benefit.

We have also argued against the interpretations that assume dualism to be given so that over time it is reduced by market forces as the capitalist sector advances and the subsistence or traditional sector shrinks. In the study of dualism in the Rhodesian colonial experience, we focus on the historic causes of dualism. Dualism was the result of the colonial

policies that effected the relative factor prices of land, labour and capital. The basis for dualism was in the land tenure system, without which dualism along racial lines in the Rhodesian case would not have been effective. The African peasants would have had the opportunity of going back into the traditional sector which would have offered better incomes than has actually been the case after the massive land alienation. But the dualistic trend of the relative factor prices, in the long run, resulted in different factor proportions being used by the Europeans and Africans in the agricultural sector. This led to falling per capita product and incomes in the African sector, while an unfair proportion of per capita incomes accrued to the white sector.

1. Economic analysis has long paid attention to the cumulative process in the economic system and to the fact that all parts of the economic system are intimately and interdependently related to each other so that it is generally not possible to separate the causes and effects in a rigorous way. See: Wicksell (1935), pp. 175-208, Myrdal (1944), pp. 75-77, 207-09, Myrdal (1957), p. 12, Myrdal (1968), Appendix II, Sections 2-5.
2. Weinrich noted that employees in the APAs 'are exceedingly poorly paid. Many of them are kinsmen who are given little more than their upkeep; unrelated hired labourers get an average of some R\$3 a month, often paid in kind than in cash.' (Weinrich (1978), p. 12.)
3. An analogous case was demonstrated by Griffin in the Colombian case, see Griffin (1974), pp. 98-100.
4. Cf. Griffin (1972), Chapter 1, Griffin (1974), pp. 36-37.
5. Lundahl (1979), p. 558.
6. Arrighi (1970), p. 209.
7. Arrighi (1979), p. 172.
8. Griffin (1972), (1974).
9. For a detailed exposition of the classification of technical progress, see Södersten (1980), Chapter 11.
10. The relative factor price ratios $P_2^O P_1^O$ and $P_1^O P_2^O$ are the same ($P_2^O P_1^O$ is parallel to $P_1^O P_2^O$), but these ratios differ from the factor price ratios $P_2^P P_1^P$ and $P_1^P P_2^P$ which are also the same.
11. For an analogous situation, see Griffin (1974), p. 47.
12. Ibid., p. 46.
13. Ibid.
14. Yudelman (1964), pp. 87-88.
15. Helleiner (1975), p. 49.
16. Reynolds (1977), p. 58.
17. Danckwerts (1970), p. 18.
18. Ibid., p. 20.
19. Ibid., p. 23.
20. Riddell (1978:1), p. 52.

21. Lundahl (1979), p. 585.
22. Weeks (1970), Lipton (1968:2)
23. Weeks (1970), p. 29.
24. Ibid., p. 30.
25. Hughes (1974), p. 287.
26. Ibid.
27. Grigg (1976), Carr Saunders (1933), Sauvy (1968), Peacock (1955), Dalton (1928), U.N. (1953).
28. Grigg (1976), p. 140.
29. Ibid., Reynolds (1977), pp. 87-89.
30. Grigg, Ibid., van de Walle (1965).
31. Grigg, Ibid.
32. Ibid.
33. Riddell (1978:1), pp. 64-65.
34. Arrighi (1970), p. 217.
35. Ibid.
36. Because of the land shortage in the reserves only those who were actually cultivating were allocated arable and grazing lands under the Native Land Husbandry Act (1951).
37. Cf. Appendix in Chapter 3; See also Stubbs (1977), p. 181.
38. Rhodesia Herald, 27 August 1978.
39. Ibid., 4 August 1979.
40. Cross (1977), p. 185.
41. Grigg (1976), p. 160, Boserup (1965), p. 41.
42. Grant (1976), p. 252.
43. Cross (1976).
44. Paukert (1973).
45. Palmer (1977:2), p. 244.

46. Nziramasanga (1980), p. 37.
47. While by law, forest land in both the African and European areas could be occupied and leased on terms and conditions prescribed by the appropriate Minister (Land Tenure Act (1969): Sections 12 and 26), in practice all forestry production was in the European area.
48. U.N. (1980), p. 30.
49. See also Griffin (1976), p. 4.
50. Loney (1975), p. 60.
51. Hughes (1974), pp. 28.
52. This probably indicates a strain in the economy as a result of the war of liberation. All evidence suggests that from 1977 to the end of 1979 there was an even greater decline in employment figures.
53. These wage ratios are calculated from the average earnings (which include a cash evaluation of all payments and kind - food, clothing, housing, etc).
54. Southern Rhodesia - The Census of Production (1962), Table 2.
55. ILO (1978), p. 95.
56. Thus the change in the average earnings of farm and domestic service labour has in real terms been marginal and in the case of farm workers, lower real wages were registered in 1978 compared to 1963. (Ibid.)
57. Note 2 applies here.
58. Cubitt and Riddell (1974), p. 5, Riddell and Harris (1975), p. 12.
59. Cubitt (1979), p. 59.
60. ILO (1977:2).
61. Ibid.
62. Batson (1945).
63. Bettison (1960).
64. Cubitt and Riddell (1974), Riddell and Harris (1975), Cubitt (1979).
65. E.g. Bettison (1960) reached his PDL assessment in relation to food, clothing, light, cleaning material, transportation, taxation and rent requirements. This enumeration made no allowances for expenses on education, personal care and health and other non biological basic needs of life.

66. Riddell and Harris (1975), p. 25, Table 5.
67. Rhodesia: Consumer Price Index for Africans (July, 1974).
68. Cubitt (1979), p. 3.
69. Harris (1974:1), p. 27.
70. Ibid.
71. Even a casual observer could easily notice in the urban townships of Zimbabwe (including some Tribal Trust Lands) illegal or private taxi operators, curio makers, vegetable hawkers, backstreet bicycle repairers, watch repairers, sheeben queens (persons running illegal drinking establishments), shoe-shine boys, herbalists and a host of other operators, mostly small-scale commodity producers and people providing services, all of whom are ignored in the official definitions of economic activities. (Cf. Davies (1978). The ILO mission found the informal sector quite substantial in Kenya, (ILO - 1972).
72. ILO (1978), p. 96.
73. Ibid., Table 36.
74. The comparison of the PDL and consumer price index (CPI) must be taken with some caution. The PDL figures are calculated for family units while the CPI figures are based on households, which usually includes relatives and lodgers. (Cubitt (1979), p. 59). Secondly, while the PDL is based on items deemed necessary in the satisfaction of minimum consumption requirements to maintain 'a condition of physical health and social decency', the CPI is based on surveys of actual expenditure.
75. U.N. (1980), p. 192.
76. Ibid., p. 190.
77. Sadie (1967), quoted in U.N. (1980), p. 190.
78. U.N., Ibid.
79. Ibid.
80. The Whitsun Foundation (1975).
81. Cf. U.N. (1980), p. 192.
82. Thus one of the prerequisites of change in traditional tenure patterns likely to cause a short-run decline in output will be offset by an increase in output as more African labour is applied to the previous vacant land. (Nziramanga (1980), p. 59.)
83. German Democratic Institute (1979), p. 9.

84. ILO (1977:2)
85. German Democratic Institute (1977), p. 9.
86. Riddell (1978:1), pp. 104-12.
87. Ibid., p. 115.
88. Ibid., p. 119.
89. Ibid.
90. Cukor (1972), p. 79.
91. Note 33 applies here.
92. For a detailed discussion on the advantages of a mixed ownership scheme involving individual holdings, cooperatives and state farms, see Nziramasanga (1980), and Mukarati (1980); see also Bognar (1975), pp. 260-66.
92. Johnston (1976), pp. 593-601.
94. Cf. Szentes (1976), p. 293.
95. U.N. (1980), p. 195.
96. For a discussion on the potential of technical innovations and technical skills, and the future development of Zimbabwean industry and its role as an intersectoral link, see Wield (1980), and Nyathi-Mdluli (1980).

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